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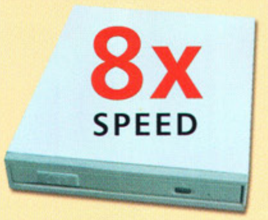
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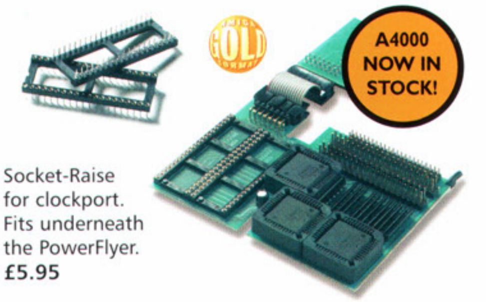
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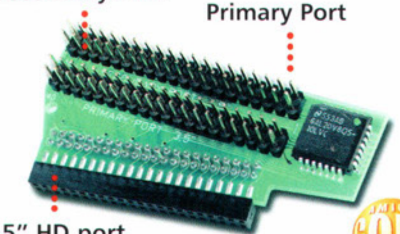
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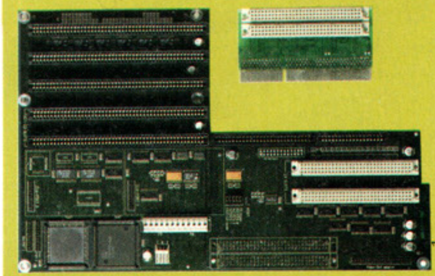
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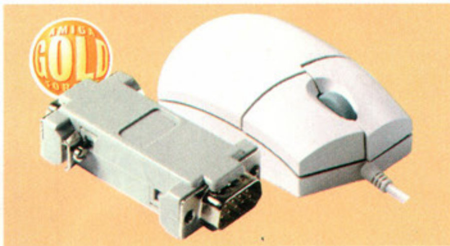


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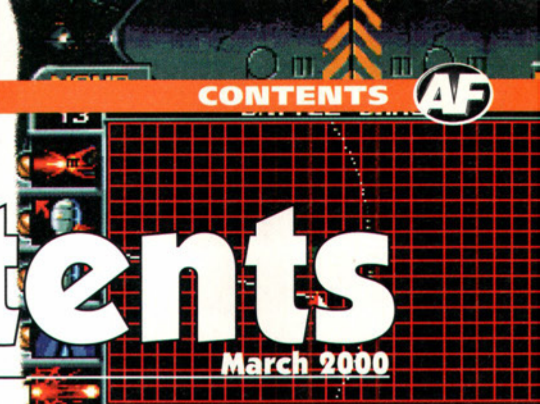

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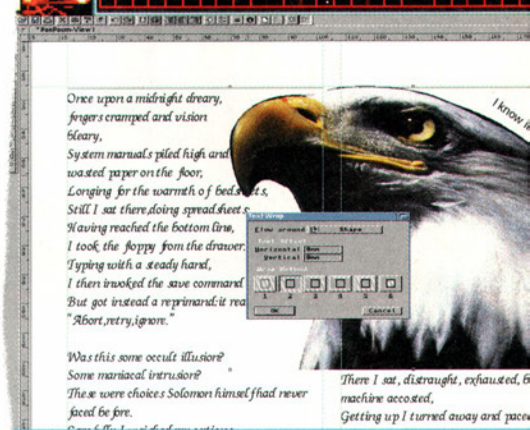
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On the disks: see the new Mac and PC emulators, Fusion and PCX; Get your Boing Bag 1 – the first update for Amiga OS3.5; and your copy of Open BSD – a version of the UNIX OS for the Amiga.

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AF'S REVIEW POLICY

…is very simple. ***Amiga Format*** is written by the most experienced Amiga users in the world and what we say goes. OK?

WHAT OUR REVIEW SCORES MEAN

90+%	These products are absolutely top notch. They are hard to find any fault with and that's the reason they get an ***AF Gold*** award.
80-89%	These are excellent products that could be improved ever so slightly. They are well worth your cash.
70-79%	A very good product with a few flaws. Items that get a score in this range are still good, but need work.
60-69%	Above average products which need improvement to get a better score.
50-59%	Average products get average scores.
40-49%	Below average and needs a fair bit of work to make it worthwhile.
30-39%	Needs a lot of work for a good score.
20-29%	Something fatally wrong.
Under 20%	The absolute pits.



WORLD NEWS

Send any news stories to us at amformat@futurenet.co.uk or to our postal address (see page 81) with the subject 'news'.

Fresh hope for the Amiga

The Amiga community was rocked by the surprise purchase of Amiga, Inc. on the last day of last year.

Amino Corporation, headed by ex-Gateway employees Bill McEwen and Fleecy Moss, payed an undisclosed sum to Gateway for their Amiga subsidiary on December 31, 1999.

The deal, rumoured to be for the sum of $5 million, included:

1. All Amiga trademarks, logos, etc.
2. All existing inventory of Amiga International.
3. All existing licences.
4. License to all Amiga patents (Gateway still owns the patents, but Amino may now use them).
5. All web sites and registered domain names.
6. The AmigaOS and all that is associated with the OS.
7. The Amiga operation as it existed at the time of sale.

In an Executive Update posted on the Amiga website on January 3, Bill McEwen, the president of Amino Development Corporation, stated: "Gateway purchased the Amiga because of the Patents, we purchased Amiga because of the People". He went on to say: "Fleecy, Myself, Petro, and the rest of the team are not going to make promises and create presentations and demos. We are going to deliver products, services, and the rest of the world will know what you have already known". Amino officially changed their name to Amiga, Inc. on January 6 and are based in Maple Valley, Washington.

Amino officially changed their name to Amiga Inc on January 6 and are based in Maple Valley, Washington

The first piece of the newly-created Amiga, Inc.'s strategy was revealed on January 8 at the Consumer Electronics Show in Las Vegas. Amiga announced a partnership with UK-based Tao Group as the supplier of the foundation OS technology for new Amiga computers.

In a press release McEwen said: "We found that Tao had the greatest similarities and strengths with our vision… Amiga with Tao together will bring a new level of capabilities, portability and scalability never available before".

HOWDY, PARTNER!

The Tao Group has two key technologies of interest to Amiga, Inc: the operating system, Elate RTOS, and their Java environment, intent.

The Elate RTOS is based on Tao's award winning Taos (see "The Way Back"). Elate is a real-time operating system that is portable, scalable and supports heterogeneous parallel processing – it can utilize



Bill McEwen: the latest in a long line of Amiga presidents.



Neil Bothwick and Dave Stroud of AmigActive magazine, celebrate the buy-out with Tim Corringham of Ramjam Consultants.



"And when I finally got it up onto the deck, it must have been at least this big."



Month in view...

You may have noticed that *Amiga Format* is now in a slimline edition. Y'know, low fat, 98% page-free and so on. The cause? Well, advertising isn't too good these days, for any Amiga mag, but that's not the reason. We don't have as much to discuss as we once might have either, but that's not the reason either. The reason is down to the fact that software and hardware manufacturers aren't as keen as they once were to send out their products for review. In fact, because of the lack of two products, we've gone down a section this issue. That's eight pages lost because some people wouldn't send us their stuff for review.

Yes, *Amiga Format* is harsher now than it used to be, when it doled out AF Gold awards for having a pretty box, but those days are long gone now and our first loyalty has to be to you, our reader. You rely on what we say for your purchasing decisions, so, in the long run, it doesn't pay to be nice to developers if they don't deserve it.

Now, if you check our review score guidelines, you'll see that we've made sure that every time we've reviewed something, it's got the score it deserved. No more and no less. Yes, it means there are fewer AF Golds doled out these days than there once were, but actually there are probably more, proportionately, since the standard of most Amiga software and hardware is so high these days. But we're now looking toward a bright new future with new Amigas and Tao-based operating systems. Does that give us an excuse to go easy on developers? Of course not. Now more than ever they need to give users what they want, what they may be paying big money for.

Ben Vost

processors of different types. It works either as a stand-alone operating system or alternatively as a layer over an existing OS (but in this case realtime is obviously dependent on the host OS). It is particularly suited to embedded applications.

The key to Elate's portability is its binary code translation technology. All software, including most of the Elate kernel itself, is written for a virtual processor (VP). This VP code is mapped, as the code itself is loaded, onto whatever instruction set the host hardware. Thus Elate applications can be transported to any platform, take up less disk space than conventional software (VP code is denser) and, thanks to the unique translation technique, run at full speed on the native hardware. Elate is object-oriented and uses a dynamic binding process to improve memory efficiency. Program modules are only loaded into memory when required.



The lesser-spotted Simon Archer.



The Amiga community takes advantage of another high-profile press opportunity.

Taos's intent is a run-time environment for Java applications. Instead of implementing a Java Virtual Machine (JVM) for the interpretation of Java bytecode, intent converts Java byte code into VP code at load time. This is then mapped onto the native instruction set by Elate's translator.

intent thus maintains the portability of Java without incurring the normal penalty of slow performance.

Tao has been focusing on the embedded market. For instance, Motorola is one of the many high profile investors in the Tao Group and uses the Tao technology in their mobile phones.

The partnership with Amiga allows Tao to broaden their horizons. Amiga will develop an outer OS layer for Elate and intent that will encapsulate their functionality and provide services more suited for the desktop and multimedia applications.

THE AMIGA TOUR

Bill McEwen and Fleecy Moss conducted a mini tour of Europe in the middle of January to meet with Amiga developers, dealers and the press.

On January 20 the pair were in Reading, England. It was good opportunity for them to introduce Tao members, Chris Hinsley and Francis Charig (the CEO) to the Amiga community. Bill, Fleecy, Chris and Francis went to dinner with staff from *Amiga Format* and *AmigActive* and representatives from various UK user groups. Other Amiga celebrities such as Mick Tinker – the man behind the BoXeR motherboard – were also present.

Before the discussion began, Bill McEwen asked all present to sign NDAs. He then explained why it had taken so long for his company, Amino, to buy Amiga from Gateway. He outlined his vision for Amiga's future and how Tao fit into the plans.

It seems that the new Amiga, Inc. are not letting the grass grow under their feet. At the Reading meeting, they told of their negotiations to sign up (very good) twelve Amiga developers to their team. Bill also announced plans that they would initiate a developer programme and have developer machines ready to ship probably by the time you read this. Initially, this will most likely be an x86-based PC with Tao's developer kit, but since Elate is portable, the host processor of the developer system is not considered to be important.

As a measure to help developers make the transition, Amiga have asked Tao Group's training manager to produce a serialized tutorial that will provide an overview of the Elate's architecture and the development of example application in VP code. This tutorial will be available exclusively to Amiga print magazines and will not be distributable by the web. Watch this space for more details.

As far as the so-called 'classic' Amiga goes, Amiga, Inc. are keen to see the open sourcing of AmigaOS3.5; their lawyers are trying to overcome the legal difficulties preventing this.

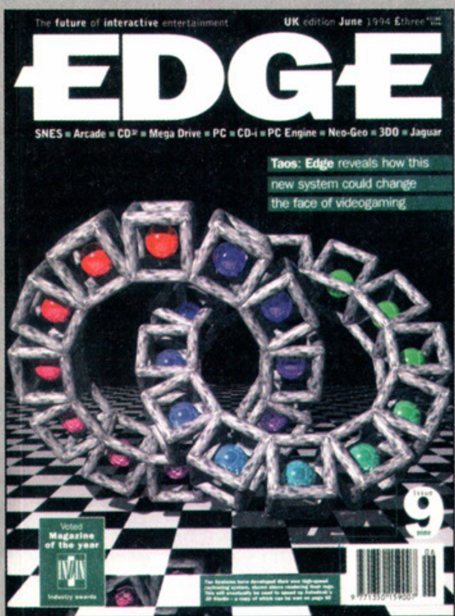
Continued overleaf ➡

THE WAY BACK

This is not the first time the Tao Group has been mentioned in a Future Publishing magazine. A news feature from *Edge* in June 1994 covered Tao and the operating system which was ancestral to their current Elate, Taos.

Tao founder, Chris Hinsley, began his career as a games programmer, the coder of titles such as *Pyjamara* and *Everyone's a Wally.* Since games were then written in assembly language, porting to a new platform was hard work. To ease the process, Hinsley developed a macro language and a translator which would map this language, on the fly, to the native platform's CPU instructions. The other founder member of Tao is Tim Moore who, when he first met Hinsley, was developing ray-tracing software for the Amiga and was interested in the concept of parallel processing. The two combined their ideas and Taos was born.

When the *Edge* article was written, Tao's intended market was the games industry and they had the backing of several large Japanese companies. Their idea was for scalable game playing hardware - you could plug in extra CPU modules of any architecture and the operating system would speed up processing by distributing the load to the new processor.



Edge: our sister magazine featured Tao in 1994.

The editor speaks...

New personable owners with new personable partners don't make for a guaranteed success story in computing – look at Microsoft if you need proof of the opposite. Even so, you can't help but wish Bill, Fleecy (and Francis and Chris) all the best when it comes to their endeavours. Once again, the Amiga is back in the arms of those who love it the most and that, perhaps, is a good thing.

The whole team, including the magic twelve who have yet to be named publicly – but are all top-notch Amiga developers, realise just what it is that makes the Amiga special and they're also pretty sure they know what can make it successful again without compromising its special status.



The last thing the world needs right now is another grey box.

As unfair as it seems, what I and perhaps many of my colleagues of an Amiga persuasion need is results, and spectacular ones at that. We've spent the last three years listening to promise after promise being broken and regardless of the fact that Amino/Amiga are a new company, we just don't have the patience to grant the leeway they surely need. As such, they are approaching the whole thing very gingerly, seeking to prove why they are joining up with Tao in a strategic venture by deeds rather than empty rhetoric. Bill and Fleecy are acutely aware that one false word, one slipped release date, one slight exaggeration of the truth could just result in one and all Amiga owners simply turning their back on the Amiga and saying that they've had enough.

The next couple of months promise to be very exciting for all of us and with the promise of developer machines some time around the time you read this. Along with a public unveiling of the mystery twelve developers, perhaps the Amiga story is finally reaching an uplifting phase after so many let-downs.

The real trick will be staying alive until the next generation of Amiga machines are upon us – there are already companies going to the wall because of their loyalty to the platform.

We all just need to hope that Bill and Fleecy's Excellent Adventure doesn't turn into Bill and Fleecy's Bogus Journey...





What the Amiga doesn't need right now is another MCC fiasco.

Amiga 2K

Bob Scharp is busy planning for the show formerly known as Gateway – the Amiga 2K show in his home town of St. Louis. It'll take place on Saturday April 1st & Sunday April 2nd 2000 and was moved from its previous dates to avoid conflict with NAB, the show for the National Association of Broadcasters which many Amiga users attend in Las Vegas.

Amiga 2K will be hosted at the Henry VIII Hotel, on Lindbergh Avenue in St. Louis, Missouri. No fewer than 1142 people attended Amiga99, which is a 14% increase over Amiga98. Bob Scharp hopes that this year's extravanganza will attract even more of the Amiga faithful.

Exhibitors will include Amiga, with Bill McEwen and Petro Tyschtschenko already confirmed as appearing, Nova Design, Amiga.org, Digital Arts and E.S. Productions. The European contingent is represented by Jens Schönfeld of individual computers and Photogenics maestro Paul Nolan.

The best bit about the Gateway show for a lot of people has always been the banquet which is replete with Amiga "heroes". Seats at the banquet are always limited and rapidly sold out, and probably even more so this year since the guest speaker will be Bill McEwen, president and CEO of the all-new Amiga Inc.

Bob Scharp had this to say about him: "Not to be one to be left out of the best computer in town, he arranged to buy the company from his former bosses. That has to be a feather in his cap. To be able to tell people that you so believe in a product, that after you leave a company, you arrange to buy it, is just admirable. I don't think they saw it coming, or they never would have left Bill leave."



Bob and Diane Scharp: organisers of the only Amiga show in North America.

TICKETS:

Tickets to the Amiga 2K banquet are $35. They will only be sold in advance, until March 18, 2000.

- **Admission tickets are $17 for two days – in advance. or $12 for one day – in advance.**
- **At the door, Admission tickets are $20 for two days. or $15 for one day.**
- **Class tickets are only available at the ticket table, during show hours. A schedule of classes will be posted at the show and orders for tickets must be received no later than March 18, 2000.**

You can get tickets and additional information from:
post: Amigan-St. Louis PO Box 672 Bridgeton, MO 63044 USA
web: http://www.amiga-stl.com/show.html email: bschárp@icon-stl.net

You spawny get!

January 26th saw the launch of GeT (Greenwich Electronic Time) at the Royal Opera House. The GeT initiative is spearheaded by the Interactive Media in Retail Group (IMRG) and was announced by the Prime Minister earlier this year. It also has the full support of e-envoy Alex Allen who was the guest speaker at today's launch. The scheme has the support of multi-national names such as Timex, BT and Interflora, along with internet domain name registration company Netbenefit.

GeT is a scheme whereby, based on GMT and UTC (pretty much the same thing), time will be accredited across the globe to introduce a single, verifiable time standard. The GeT initiative will, in due course, provide a wide range of information, links and time-tools under three distinct themes:

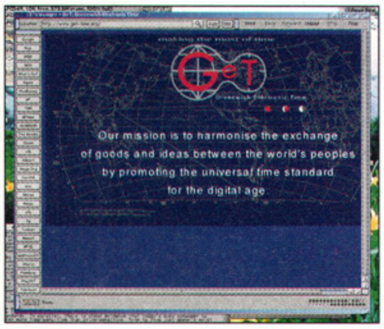
Business time – for commercial enterprises and trade.

Personal time – for the general public, including personalised clocks and desk-top time-tools.

Education time – a source of educational materials for the general public, schools, students and children.

The reasoning behind this is the fact that, more and more, people are using websites based all around the world, all of which are using their own local timezones as the basis for their measurement of time. The problem lies in the fact that these times are all slightly adrift, which means that purchases made in a foreign country can be owned both by the purchaser and seller at the same time, and the money markets can be played without actually ever having to actually move the money to and fro.

IMRG is a consortium of big name merchants in the UK, people like Argos, Dixons Group, BT, Marks & Spencer and many more. It was set up in 1990 to look at alternative methods of maximising retail opportunities for these already-large companies, but they are most interested in e-commerce these days since it seems ready to really take off now, with more than 50% of DVDs bought online, according to a recent report. As such, The internet provides a very real benefit for smaller companies in allowing them to compete with larger companies on a more level playing field. But within this global village, one of the qualities that differentiates businesses is service standards. Online commerce demands fast, safe and timely credit clearance, confirmation and delivery. GeT will help businesses monitor and achieve this with the assurance that all commitments can be stamped, processed, monitored and audited, according to an agreed time reference.



Visit GeT's site to learn more about universal time.

The managing director of NetBenefit, Jonathan Robinson, had this to say: "As the Internet matures, it is becoming more and more necessary to agree global standards. In parallel, there is clear evidence that today's busy consumer is often more time-sensitive than price-sensitive. Nine to five just doesn't exist any more, in the workplace or the marketplace; consumers expect to be able to buy online in any time zone at any time and GeT is a vital component of this new e-conomy".

You can visit the IMRG website at http://www.imrg.org to find out more about what these big companies have planned for you. Alternatively, use the GeT site at http://www.get-time.org.

Continued overleaf ➡

Product News...

Zeus BBS 1.3 released – the new version has many new improvements. See http://www.bleach.demon.co.uk/zeus/ for more details.

TrueReality – The first Nintendo64 emulator for the PPC equipped Amiga is launched. You can get it from: http://www.amidog.com/emu/

Imagine 5.17 launched. The new version incorporates OS3.5 support and has updated editor menus, an MPEG generator and other additions. http://www.cadtech.demon.co.uk/

Amster 0.4 – a MUI-based Napster clone for the Amiga (used to find MP3 tracks on the internet)

AmiBroker 3.20 – Stock charting and analysis program which now includes permanent trendlines, groups, market definitions, and more.

Frogger now plays Video CDs (on the PPC version only at the moment).

Product News...

100 issues ago — AF34 May 1992

AMIGA FORMAT



We look at what was going on in the Amiga market 100 issues of *AF* ago...

■ Cover Feature: Move up to DTP. An in-depth report on how to produce professional documents on your Amiga. Covers the technical terms of DTP along with what used to be done to layout a magazine before DTP came along.

■ On the disk: two floppies with the complete version of *PageSetter 1.2* and demos of *Sensible Soccer* and *Jaguar Racing* (which became *Jaguar XJ220*). From last issue (AF33) the mag has two floppies on the cover.

■ News: A spread on the new A600, and warnings about compatibility with older software because of the lack of numeric keypad and the lack of a fast RAM expansion capability. Also in the news was the launch of Workbench 2.04 as an upgrade. The new OS cost £79.95, came with just the ROM, three Workbench install disks and a new manual. There was a plug for the *Amiga Shopper* show in Wembley, at which the A600 and A570 would be launched, and also the news that MicroProse, Psygnosis and MindScape would be offering CD-based software.

■ Prices: a CDTV would set you back £500. Today you'll be lucky if you can sell that same CDTV for £50.

■ Games reviewed included: *Vroom* (Ubi Soft) 91%, *Race Drivin'* (Domark) 45%, *Ultima VI* (Mindscape) 67%, *DynaBlaster* (Ubi Soft) 87%, *Space Crusade* (Gremlin) 82%, *Black Crypt* (Electronic Arts) 78%

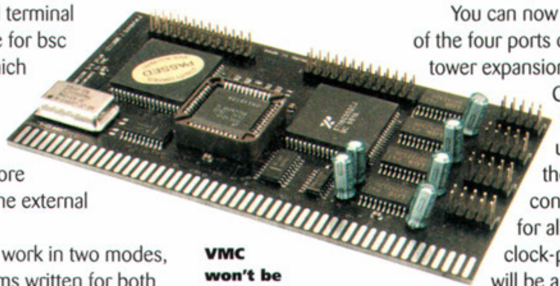
■ Serious products reviewed included: *Professional Page 3* (Gold Disk) 89%, *PageStream 2.2* (SoftLogik) 91%, *Professional Calc* (Gold Disk) 92%, *Caligari 2* (Octree) 85%, *Easy AMOS* (Europress) 92%, *Presentation Master* (Oxxi) 82%, *Audio Engineer Plus* (Gsoft) 94%

Notes: The Editor's opinion, written in those days as it was, by Damien Noonan, was prescient enough to look forward to a time when the Amiga had none of the large software houses that built the Amiga's reputation. His arguments were based largely on the fact that piracy was killing the Amiga then, and look at us now...

VMC contract out hardware to focus on software

Amiga communications specialists VMC have been reborn as a software-only company. They will be licensing their product range to Catweasel and Buddha manufacturers Individual Computers.

In the new millennium, VMC will focus on program development and license the software products to third-party vendors. The first fruit of this work is expected to be an update of their ISDN terminal adapter, originally made for bsc as the ISDN-Blaster, which developed into VMC-ISDN. This has lots of software support on Aminet, making it far more versatile than stand-alone external Terminal Adapters.



VMC won't be making any more hardware like the Hypercom.

The new board will work in two modes, compatible with programs written for both systems, and VMC are actively soliciting feedback from ISDN users to determine features for the new model: email vmc@vmc.de to have your say.

Production of VMC's Hypercom 1 has ceased, now that the fully-compatible Silver Surfer is available in quantity from Individual Computers. The Surfer is based on the Hypercom 1 circuit, also sold as Port Junior, but re-designed to fit alongside newer Amiga peripherals.

On January, 20th, all products in the HyperCOM plus range were sold, with stock and a license for further production has transferred to Individual Computers. However, VMC will continue software development and ensure updates in the future. Future hardware orders should be directed to Individual Computers or distributors that carry their products, which include Eyetech and Power Computing in the UK.

All the HyperCOM software drivers have been adapted to support the new A1200-style clock-ports that have recently been introduced. Individual Computers' X-Surf network card offers two independent clock-ports and a special 26-pin expansion port for HyperCOM 3+ modules. All the ports on this card are supported in the new software, even if there is more than one network card present in the system.

You can now use any Hypercom in any of the four ports on ACT's Z4 Amiga 1200 tower expansion board. Individual Computers' new clock-port adapter lets A600 users use A1200 expansions on the smallest Amigas. The connector is fully supported for all HyperCOM cards with a clock-port interface. However, it will be a struggle to find space for anything bigger than a Silversurfer in a standard A600 case.

The long awaited Hypercom drivers for IOMega's parallel port ZIP-100 drive have entered the last stage of beta testing and are said to show impressively high transfer rates with the HyperCOM parallel ports. In VMC tests, Diskspeed has measured consistent transfers at up to 450K per second. They invite all HyperCOM customers who own a ZIP-100 or the later ZIP-100Plus/250 to contact them for a public betatest.

The Hypercom drivers now have an software interface for ScanQuix parallel scanners, though it's not known when the first version of Scanquix that makes use of this API will be published. Interested customers are encouraged to contact the Scanquix author Andreas Günther, directly or via Eyetech, his UK distributors, on (01642) 713185.

Eyetech's easy networking

Amiga to Amiga networks have always been hard enough, but Amiga to PC ones have always been nigh-on impossible for lay users. However, Eyetech think they've got the solution for all you ham-handed Amiga owners.

All their networking products – from the PCMCIA ethernet card for the Amiga to the top of the range Surf-XS card mentioned in last issue's news – now come complete with Samba and NET-FS networking software distributions free of charge with easy-to-use installers for either Miami or Netconnect/Genesis TCP/IP stacks (one of which has to be installed already). Eyetech's installer installs both software suites in just five mouse clicks, allowing the user the choice of which software to use by simply clicking on the appropriate – Samba or NET-FS – icon. Documentation is provided on disk to show how the installation can be fine tuned by editing one text file to selectively share drives and volumes.



Easy-to-use networking with Eyetech's installer script.

Eyetech's complete Amiga-Amiga ethernet networking packages start at just £89.95, including two A1200 PCMCIA ethernet cards, 3 metres of crossed UTP cable and the Samba & NET-FS networking software and installers as above.

An A1200-PC package is just £69.95 including both A1200 PCMCIA And PC PCI ethernet cards, 3 metres of crossed UTP cable and the Samba & NET-FS networking software and installers as above. You can call Eyetech on 01642 713185.

Vital Horgan



Like a wet bar of soap, Amiga changes hands once more, just as it was working up a promising lather. With the new owners comes the traditional package of shiny new buzzwords, roadmaps and rumours of co-operation with the World's major technology and media companies. Buoyed up by the excitement of the take-over, the new bosses will doubtless issue plenty of ambitious promises, and all will be well again in Amigaland, as the "real Amigans" take the helm and apparently set a course for the heart of the future.

But once the champagne has gone flat and the hard work has to start, what's to say that this time it will be any different? Today's heroes can so easily become tomorrow's villains. Drawing parallels with George Orwell's *Animal Farm*, the pigs, leaders of the revolution, are now masters of the house. Who's to say how long it will be before those well-intentioned plans and pledges fade away, punctured by the same harsh realities faced by previous governors of the Amiga brand?

To be blunt, when it comes to enthusiasm for the future of Amiga, I'm running on empty. I've had a lot of fun writing this column over the past 18 months or so, but now I feel it's time to wrap it up. The last thing the scene needs is to have a grumpy old git rambling on about how everything is crap all the time. I've become cynical and jaded, and the last thing I want to do is inflict that upon everyone else.

So it's with all honesty that I wish Fleecy and the gang all the best of luck with their new baby, as I bow out of the pages of this magazine. As my mum always taught me to say: "Thankyou for having me".

Tony Horgan



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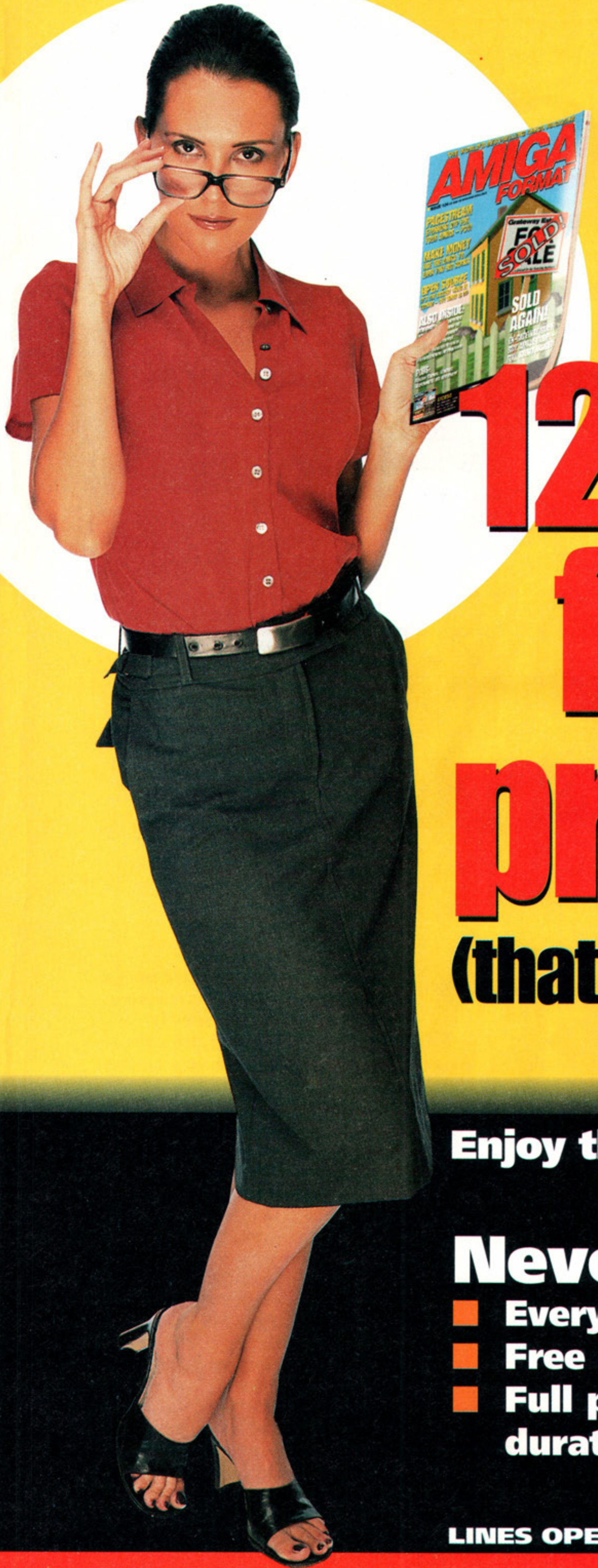
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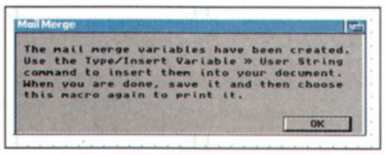
Convert your Amiga skills into ready cash with Amiga Format's guide to making money with an Amiga.



There are few of us who can easily afford to upgrade our Amiga and buy the latest software or hardware. Every day I speak to users on the phone who would love to get even a CD-ROM for their Amigas, but who can't afford it, which precludes them from getting OS3.5, many current software titles or, for that matter, our great CD (even though I say so myself...). On the other hand, even if you're completely destitute, you can make cash with some of the skills you've gathered from using your Amiga. All it takes is a little lateral thinking and some hard work.

Even the simplest Amiga can be hired out as a handy tool for word processing. You can either offer to type up someone's essays for them, or even let them loose on your Amiga. This doesn't even necessarily require a printer since you can always give your clients their document on a floppy disk. Most won't have access to their own computer (otherwise they wouldn't be paying you to use yours) but they are even less likely to have access to an Amiga, so the disk you give them should be PC formatted, rather than Amiga formatted, and the document file format shouldn't be something specific to the Amiga, like a *Wordworth* file, but rather something saved in either RTF or ASCII modes from whatever word processor you use (with RTF being far more preferable than ASCII). If you do have a printer, of course, you can offer to print out the documents for them – for a small additional fee...

You can make some cash with the skills you've gathered from using your Amiga. All it takes is lateral thinking and some hard work

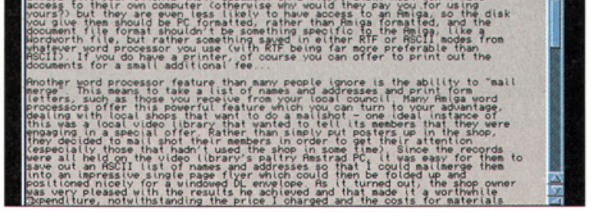

The mail merge variables have been created.
Use the Type/Insert Variable » User String
command to insert them into your document.
When you are done, save it and then choose
this macro again to print it.

Mail merging is one of those super-powerful features that no-one uses.

MAIL MERGING

Another word processor feature that many people ignore is the ability to "mail merge". This is taking a list of names and addresses and printing form letters, such as those you receive from your local council. Many Amiga word processors offer this powerful feature and you can turn it to your advantage by dealing with local shops that want to do a mailshot. One ideal instance of this was a local video library that wanted to tell its members about a special offer of two video rentals for the price of one. Rather than simply put posters up in the shop (though they did that as well) they decided to mail shot their members (especially those that hadn't used the shop in some time) in order to get their attention. Since the records were all held on the video library's paltry Amstrad PC, it was easy for them to save out an ASCII list of names and addresses so that I could mail merge them into an impressive single page flyer which could then be folded up and positioned nicely for a windowed DL envelope. As it turned out, the shop owner was very pleased with the results he achieved and that made it a worthwhile expenditure, notwithstanding the price I charged and the costs for materials and postage.

Although a text editor is cutting it fine, some folk just want text typed.



your time to keep slavishly re-doing the work you've done for someone who wants a different font every five minutes.

Even the simplest Amiga can be hired out as a tool for word processing. You can either offer to type up someone's essays for them, or even let them loose on your Amiga. This doesn't even necessarily require a printer since you can always give your clients their document on a floppy disk. Most won't have access to their own computer (otherwise why would they pay you for using yours?) but they are even less likely to have access to an Amiga, so the disk you give them should be PC formatted, rather than Amiga formatted, and the document file format shouldn't be something specific to the Amiga, like a Wordworth file, but rather something saved in either RTF or ASCII modes from whatever word processor you use (with RTF being far more preferable than ASCII). If you do have a printer, of course you can offer to print out the documents for a small additional fee...

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Bright? Yes. Professional? No. Posters are an ideal use of your DTP skills.

COPYRIGHT ISSUES

When you are creating your own artwork for someone then the copyright remains with you, but one thing you shouldn't do is start making use of someone else's copyrighted work in yours. For the most part no-one will notice, especially at a local level, but it would be embarrassing to have men in black suits knocking on your door to tell you you've been a naughty boy, or, more likely, receiving an official-looking letter from some firm of solicitors telling you that the company you ripped off will be suing you for thousands of pounds for "appropriating" their hard work.

Likewise, you may consider offering people the ability to back up their machines onto CD, but consider the fact that whatever you back up has to be the property of the person whose machine you are backing up. Just make sure that whatever you do, you know the provenance of every single image, font, sound sample and so on that you use. As an individual, you almost certainly won't get sued (companies won't go to the expensive bother if they know you aren't going to be able to pay), but if you've done work for a company using copyrighted materials, they may well be on the receiving end of a lawsuit for having stationery that breaks somebody else's copyright.

Although you don't necessarily need to have a fully kitted out machine – after all you wouldn't need to raise the dosh to upgrade your machine if it were already stacked – if you've got a colour printer, and better yet a scanner, then you're set up.

In no time at all, you can approach restaurants, shops and sellers of every kind of item imaginable (through shop windows) to ask if they'd like to have their less than professional hand-written signs converted into stylish and inexpensive printed ones. You don't even really need a colour printer to do this – good results can be had by printing to fluorescent or pre-printed paper, giving you the look of more expensive printing at a fraction of the cost. Places like Staples and Office World are ideal to get your hands on cheap paper of this sort which should be ideal for use in pretty much any kind of printer.

STATIONERY

Don't forget that in addition to flyers for clubs, index card-sized printouts for post office windows and notices to stick in the back of car windows and the like, you can also offer things like personalised business or wedding stationery. It's very easy to make up things like compliment slips or order of service brochures, but this is made even easier by using pre-printed sets of varying types of paper (compliment slips, business cards, three-fold brochures and so on) like those offered by PaperDirect, to give your customers professional quality printing with their name overlaid. The main problem with design is that unless you just offer a simple menu of styles for people, you could end up spending more of your time than the job is worth working on different designs for your client. Now, it's fair to expect that you're going to spend a lot of time on the design if you're talking about a multi-million pound advertising campaign, where the client has every right to expect things just so, but unless you can guarantee repeat business, like reprinting business stationery you've designed the logo for, it's not worth your time to keep slavishly re-doing the work you've done for someone who wants a different font every five minutes. The right level of input is very tricky to get right, so you'll probably take a bit of a hit at first, while you're gauging exactly how much the client expects from you.



Burger bars and kebab shops are ideal locations for band posters.



Simple, but easy to read for anyone interested in this car.

> You don't need to have a fully kitted out machine – if you've got a colour printer, and better yet a scanner, then you're set up



An up-to-date inkjet printer produces stunning results and is usually a very cheap purchase.

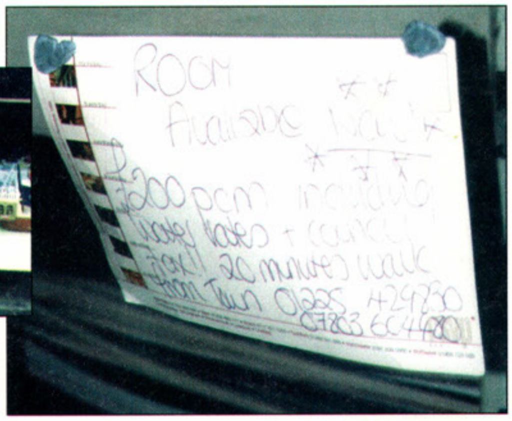
THE MUSIC BUSINESS

Alternatively, the music scene can be a lucrative market for someone looking to make a few bob. While big name bands will have fortunes spent on promotional materials for them by the labels they're signed to, bands from your school or your local pub won't be able to afford full colour

Continued overleaf ➡



Signs like these can be produced in minutes and shouldn't cost your customer too much cash.



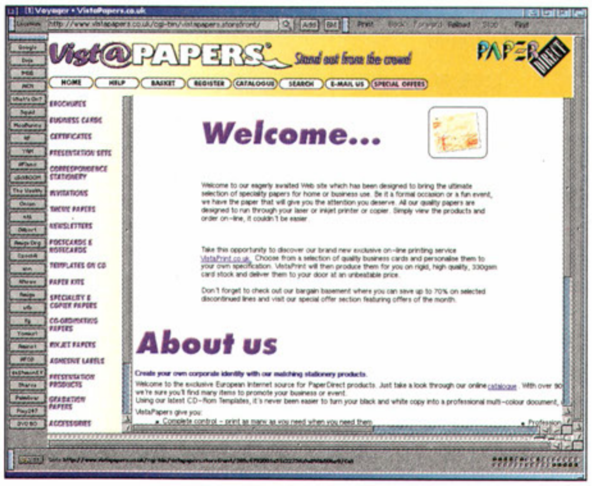


➡ posters or to have their own CD pressed. If you're of a musical bent you can press a CD for them, but this will require some serious Amiga equipment including a CD-ROM writer, a 16-bit sound card and stacks of memory and hard drive space. On the other hand, printing flyers for your band might not quite be enough involvement for you. If your band do have a CD pressed, it's unlikely they'll be able to afford nice

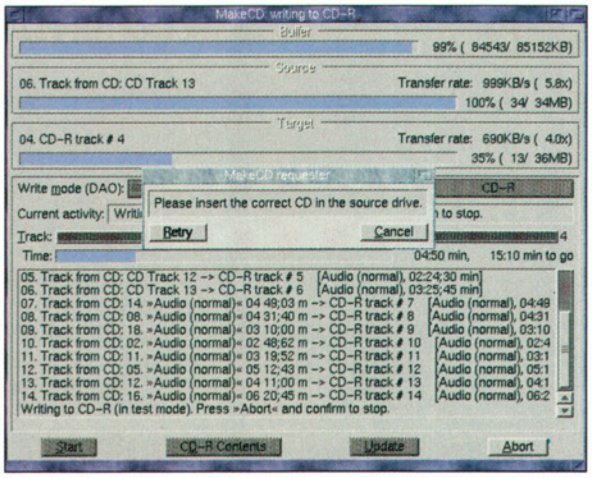
> *The Amiga is still up there with the best of them when it comes to RGB images – witness the excellence in our Gallery section every issue*

packaging for it, so you could always design their CD sleeve, and possibly the label for the CD, especially using the Avery CD label kit reviewed on page 39. Of course, this is an expensive prospect for anything more than a handful of discs, but it might be ideal for sending demo discs to music publishers.

Then there is a further twist. What if your band want to join the growing number of groups releasing their songs as downloadable MP3 files? You can do that for them. Better yet, they'd probably want a website for people to be able to download it from. And guess what? You could do that too. Armed with a selection of the numerous tutorials *Amiga Format* has run on HTML-related matters, your band could find itself better represented online than some major groups! For MP3 conversion at any speed at all, you might think that you'll still need a fast Amiga, but if you haven't got one there's no reason your machine can't do the work overnight while you are asleep – even if it takes your machine several hours to do just one song.



PaperDirect? VistaPaper? It's all the same to me.

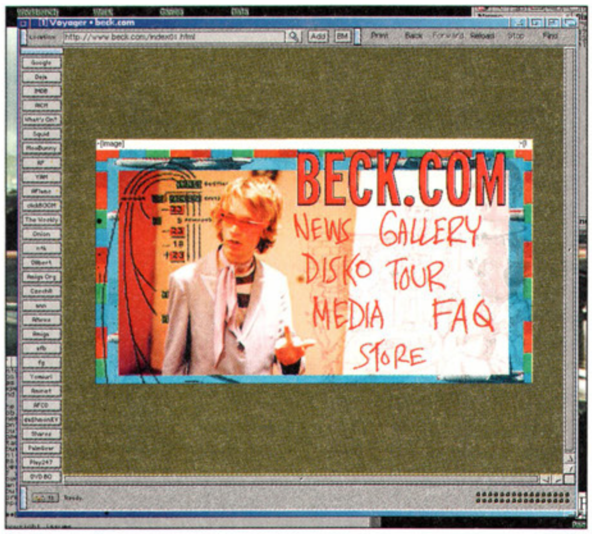


Mastering audio CDs for bands can bring in some cash.

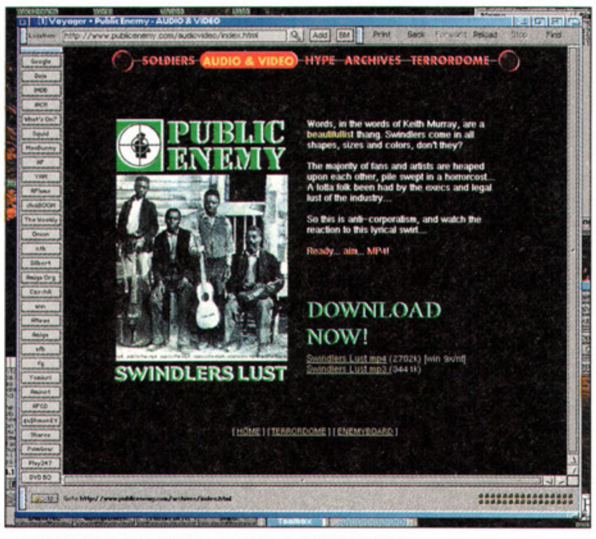
IMAGE DESIGN

If you are very creatively-minded and have a severe artistic bent, then rather than messing with DTP or word processing, what about offer an image design facility? The Amiga is still up there with the best of them when it comes to RGB images – witness the excellence in our Gallery section every issue. Although it's not so good for CMYK images destined for print, if you are printing out for yourself, that won't be a concern. A scanner, TurboPrint combined with a decent inkjet printer and some glossy paper can result in a lucrative little business retouching old photographs, or even, Soviet Union government-style, editing unwanted people out of photos. While the print quality of an inkjet can't hope to beat that of a photographic print, once the image is behind glass, or in a photo album, it'll be hard work for anyone to notice the difference. If you have a high resolution digital camera too, then you have an all-in-one photostudio operation based around your Amiga.

Once you've been in operation for a while, it would almost certainly pay for you to buy yourself a decent graphics tablet – Wacom's new Graphire now has Amiga drivers courtesy of Haage & Partner that



Make a website for your local band and you can even...



...put their latest single out as an MP3 on there.

TOP TIPS

Scanning

If you are intending to touch up photographs, make sure you are scanning at a high enough resolution. It's no good scanning so that the image fits on your screen, it'll be far too low res to print out at the same size. A better guide would be to look at your printer's resolution before you start. If your printer is capable of outputting at 720dpi, you'd be wiser to think you ought to scan at 720 dpi to accurately reproduce the image. On the other hand, that 720dpi resolution is somewhat misleading since that's the resolution for one pixel of colour. Unless you are working strictly in cyan, your printer won't be able to work at that resolution. A better guide would be to at least halve that scanning resolution - 360dpi, say - or even reduce it further. The exact limits can be worked out, but can again be misleading, work with different sizes of scans to work out the lower limits you can manage, so that you don't have to work with huge images that you might not have the memory for. Painting on such large images can be tricky, but most modern 24-bit paint packages can work on sections of images loaded from disk.

MPEG audio

If you don't have a PowerPC, MP3's can take a long time to produce. You could offer MP2 files instead. The audio quality is the same, but the compression ratio isn't as good. This means that the tracks take less time to convert, but will play the same.


A scanner is an important purchase. Don't just go for the cheapest you find if you want to sell images.

mean that you can use the wireless wheel mouse or the stylus to offer the best drawing environment possible (look out for a review in our next issue).

It probably won't be enough for you to retire on but it may keep you in software and add-ons for your Amiga with little additional outlay

CLOTHING

A logical outcropping of this putative image editing studio is the ability for you to be able to offer T-shirt printing facilities as well. T-shirt printing paper can be cheaply bought from office stationery shops and that combined with a cheap supply of white T-shirts can result in some very impressive results. Unfortunately, it doesn't matter whether your tan better suits a black t-shirt or not, inkjet printers still don't have white ink, so you really need to print onto white in order to get your images looking right. Talking of which, make sure you remember to reverse the image you wish to print before you do so, so that it can be easily ironed down onto the shirt.

For those without an artistic bone in their bodies, don't worry, I haven't forgotten about you. You can offer faxing facilities if you have a scanner and a suitable modem, or at least fax receiving facilities if you don't have a scanner, but do have a printer. All it takes is the very cheap, but very good *STFax* and the appropriate aforementioned printer and/or scanner.

Those of you out there "doing video" with their Amigas might wonder why I haven't mentioned the Amiga's killer app at all in this feature. Well, in part it comes of the fact that you can no longer get truly decent genlocking equipment for your Amiga these days, although standalone vision mixers are getting cheaper and better quality. If you have access to this kind of equipment, hook up with wedding videographers as soon as you can – most don't offer the kinds of facilities that are dead easy for your Amiga to offer, like subtitling (for hard of hearing granny), idents, pre-credit graphics or credits. As you can see, there are plenty of ways in which your Amiga can make you some money. It probably won't be enough for you to retire on, but it may keep you in software and add-ons for your Amiga with little additional outlay.


Make sure you reverse images before printing them for a T-shirt.

I haven't even touched on the ability of a lot of you to be able to code software for sale to the Amiga community or professionally, but I know there's a lot of talent out there. *AF* will always be interested in how you get on, so be sure to let us know how you're busy creating menus for your local restaurant, promoting your favourite local band or editing images for your family!

Ben Vost



While a Mustek VDC-200 might not be high enough resolution, it's a start.

WHAT YOU NEED

At the most basic level – word processing – you only need an A500 with Ed, but obviously as your hardware and software improve, so does your output potential. While it's inconceivable that your skills will improve simply with the addition of new hardware and software, with a faster machine it's easier and quicker to experiment in order to find just the solution you're looking for. We would suggest that as a minimum you should have: an AGA Amiga, or an ECS machine with a graphics card, running Workbench 3.1 or better, at least an 030 processor, at least 8M fast RAM, a hard drive, a CD-ROM drive, a monitor (rather than using the TV through your RF modulator) and an inkjet printer (with TurboPrint 7).

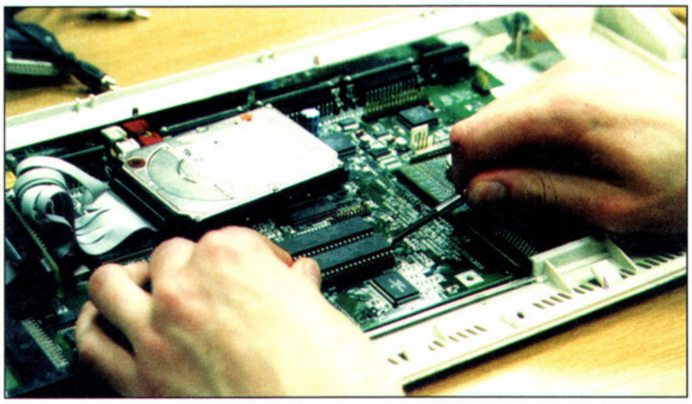
Most of you will have met these requirements by now, but don't worry overly if you haven't, as I said earlier, even a 1M A500 can be used to make some extra money which can be used to upgrade your machine to a better standard. Obviously these requirements indicate hardware in the main, since software needs can vary dramatically for what you intend to do. However, an easy way to work out what would be good for you would be to check out some past reviews in AF for software items like *PhotoGenics 4.3, Wordworth 7, Prelude, Samplitude Pro, ImageFX, Art Effect...* the list goes on.

Rom Swap

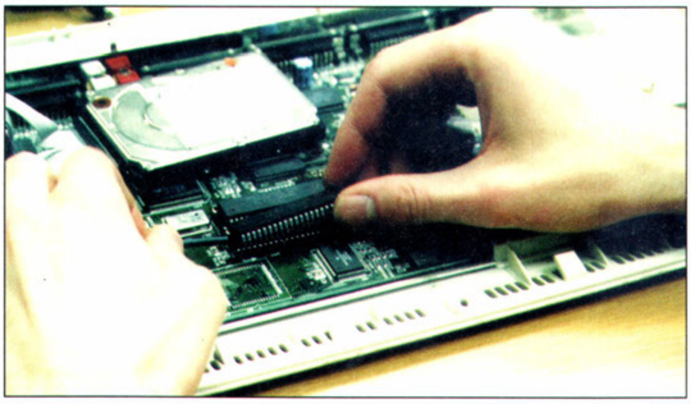
A number of you are worried about upgrading your old Kickstart 3.0 ROMs for the Kickstart 3.1 that you'll need for OS3.5, but you shouldn't be…



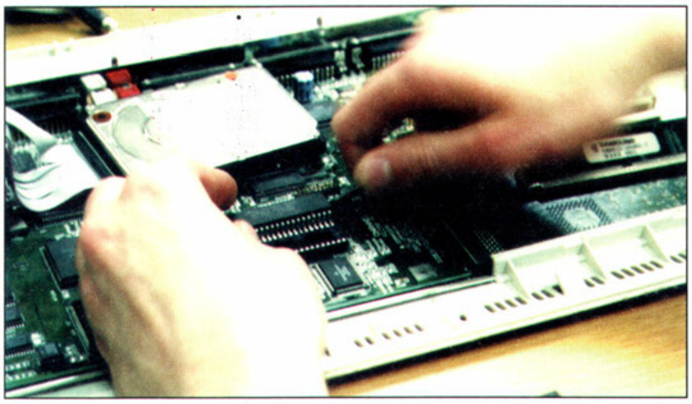
1 Before you start, clear an area around your Amiga, and if you have yours sitting on a carpet, move it up to a table for this little operation. Wash your hands and face, but make sure they are both dry before commencing. The only tools you'll need are screwdrivers.



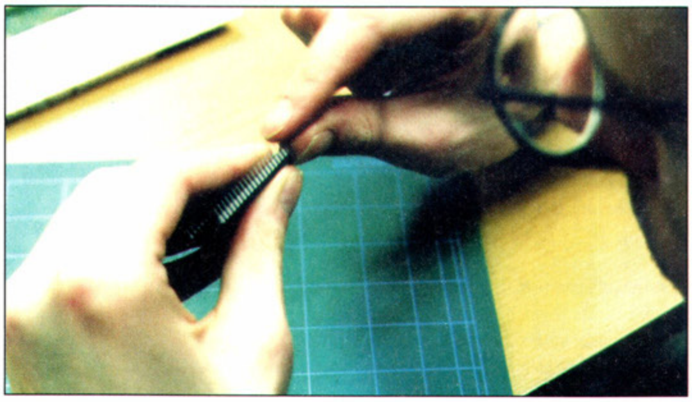
2 Once you've gone through the rigmarole of opening up your Amiga, you'll be confronted by a silver sheet of metal, if you've never opened your machine before. Remove this by prising the tabs at the edges up and removing the screws at the area by the accelerator port.



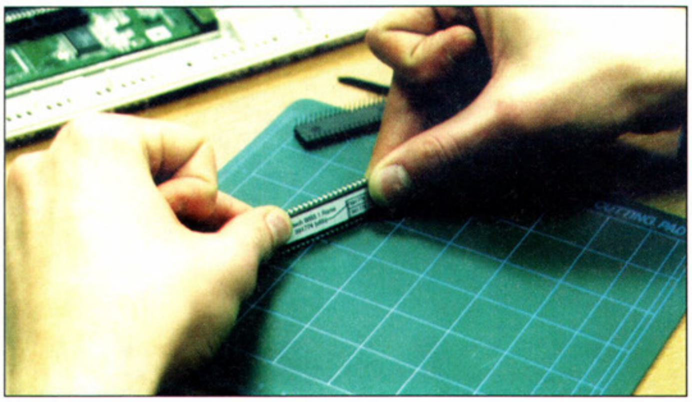
5 You'll often find that if you don't alternate ends for levering up, your ROMs will suddenly pop up at one end or the other. Push the errant end down again a bit and then lever out the end that's still stuck in the socket. Don't worry if you bent a couple of the end pins (we'll sort it out).



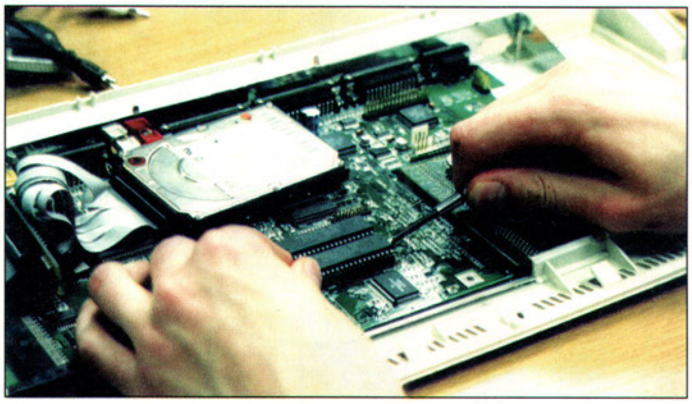
6 The second chip is exactly the same as the first. If you really want a sure-fire way of remembering which is which, a dab of Tippex on the socket and the top of the chip you've just removed will be a pretty permanent reminder. You can do the same with the 3.1 ROMs too.



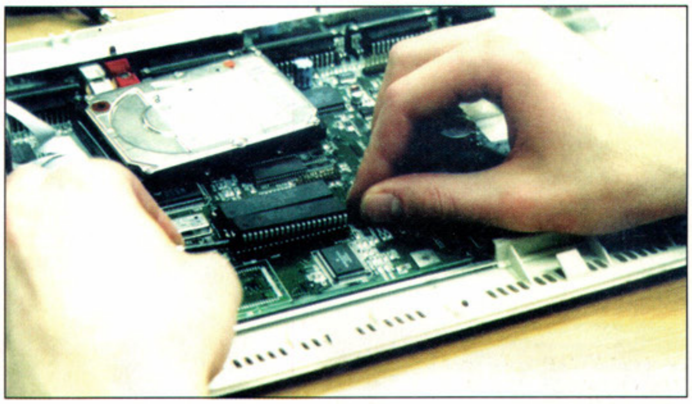
9 Once you have your Kickstart 3.0 ROMs correctly aligned, put them to one side, preferably in the box you got your 3.1 ROMs in. Chances are they'll sit there gathering dust until you finally throw them out in 2007, but it's better to be safe than sorry.



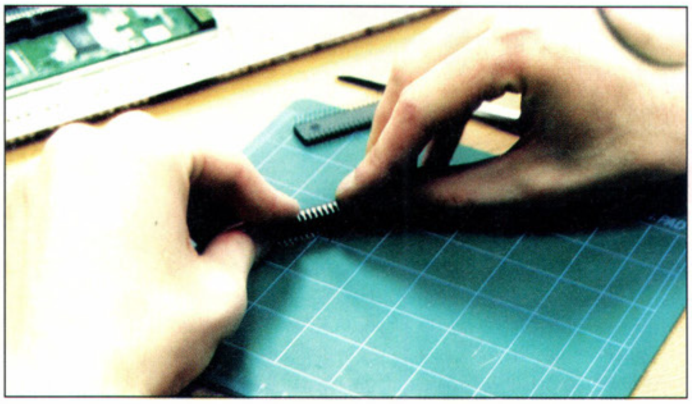
10 Before you put your new ROMs in you may notice that the legs are fairly splayed out. This is completely normal and can easily be rectified by putting the chip on its side and bending it slightly downwards. Do it gently and don't do it too much since the legs are a lot harder to bend out.



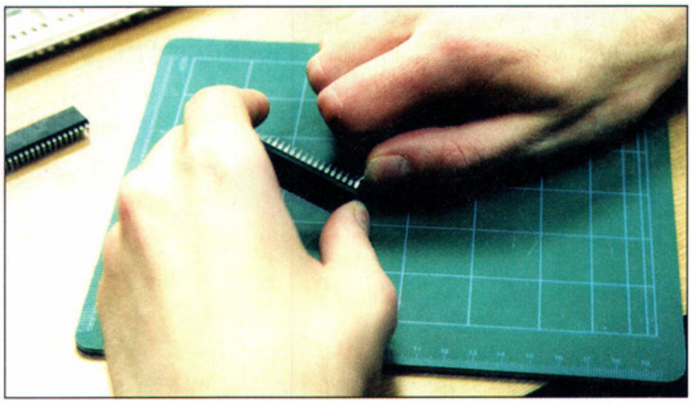
3 As you can see, Rich's hands have rushed ahead and started removing the Kickstart 3.0 chips already, but make sure you've noted which way round they go and what the part numbers on them are. Your ROM sockets might also be a little too large for the chips, so note which holes the chips...



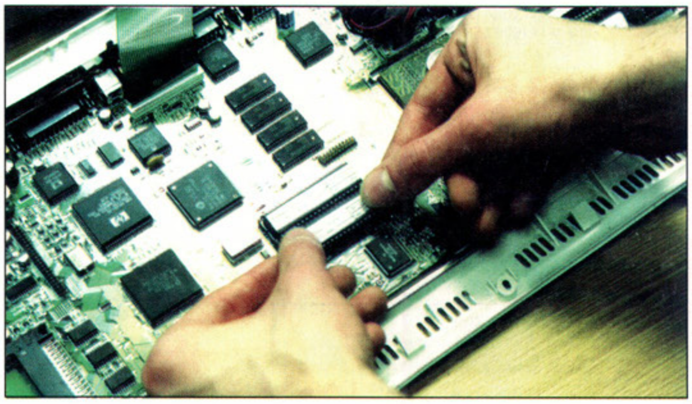
4 ...aren't in. You'll notice we're on our third picture of the prising of the chips and I haven't mentioned them yet. When you come to start lifting them out – take your time. Don't hurry it at all, and whatever you do, don't panic! If you take your time, you'll have no problem levering the chips out.



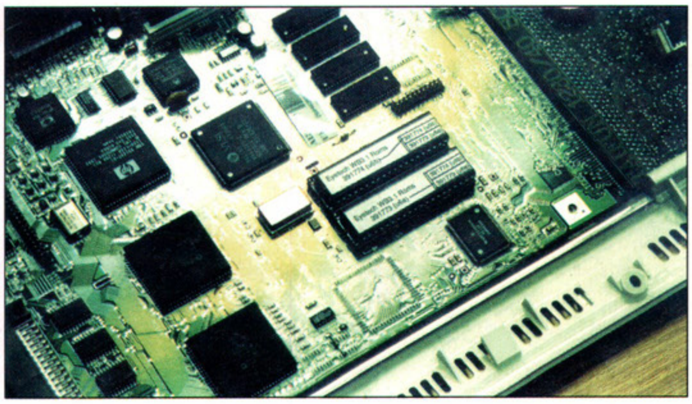
7 You might still need your Kickstart 3.0 ROMs, just in case you have a problem with your 3.1 replacements, so make sure they are still in working order. Straighten out pins that have been bent outwards by pressing all the pins down, or in by holding the chip like so and using a...



8 ...screwdriver to flatten the wandering pin. If you have pins that have decided to take a walk laterally they can be forced back into place with judicious use of a screwdriver or the blade of a knife and a horny thumbnail, as Rich so ably demonstrates.



11 Again, when inserting the new ROMs, take your time. If you're a bit het up by all the techno-geekery so far, relax, have a cup of tea and a biscuit. We're in no hurry. Okay? Relaxed? Right, insert the ROMs as flatly as you can. You might find it easier to slightly insert one side first and...



12 ...push the ROM towards the back of the machine slightly to make sure you have the other legs hovering over their holes (easier to do than explain, that one). You should soon have your 3.1 ROMs sitting in pride of place in your A1200 and you can get on with installing OS3.5. Good luck!

Open Source

Open source represents an entirely new way of developing and distributing software – but what exactly does it mean for the Amiga community? Richard Drummond investigates

A revolution is taking place in the way that computer software is developed and distributed. This revolution is called open source.

The open source movement has received much media attention because of the waves it has caused in the IT sector. Major players in the software industry – Netscape, Corel and SGI, to name but a few – have embraced the concept; Microsoft cited the open-source operating system, Linux, in the US Department of Justice anti-

> Open source software is still copyrighted; there is still an owner. But the licence will give back freedom to the user

trust trial as evidence that Microsoft did not possess a monopoly. Despite the recent buzz, though, open source is merely a new spin on a practice that is as old as the computer. But now, thanks to the explosive growth of the Internet, open source is an idea that has found its day.

WHAT'S IT ALL ABOUT?

Open source is the current vogue term for what was once known as free software. The rationale is that calling software 'open source' is less misleading than calling it free, since the 'free' refers to freedom not zero cost. As an example, Microsoft's Internet Explorer is not free software, despite the fact that Microsoft does not charge for it.

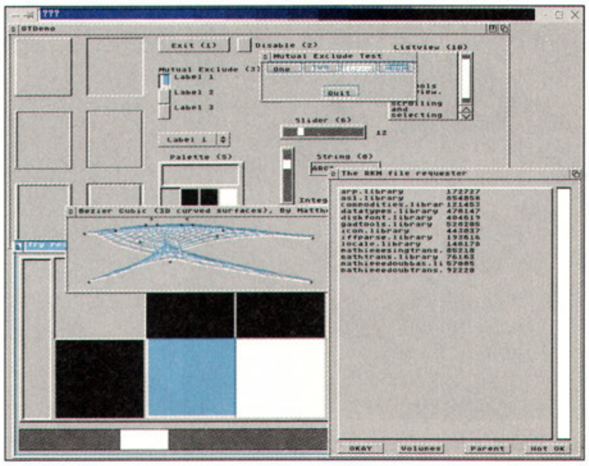
Before we go any further, consider the concept of software ownership. Technically, you do not own the software installed on your computer; whoever holds the copyright to that software owns it. You merely own a licence which gives you permission to install and use it in certain ways. For non-free software, that licence will limit the use and forbid any redistribution of the product. Proponents of open source claim that such practices are oppressive.

Open source software is still copyrighted; there is still an owner. But the licence will give back freedom to the user. This practice is sometimes known as "copylefting" – as opposed to copyrighting. There are many different variations of 'free' software license, but to be truly open source, a licence must grant the following freedoms:

1. The freedom to use the software for any purpose.

2. The freedom to adapt the software to your needs.

3. The freedom to redistribute copies of the software either gratis or for a fee.



AROS, shown here running on Linux, is an example of open source development.

I'M A GNU

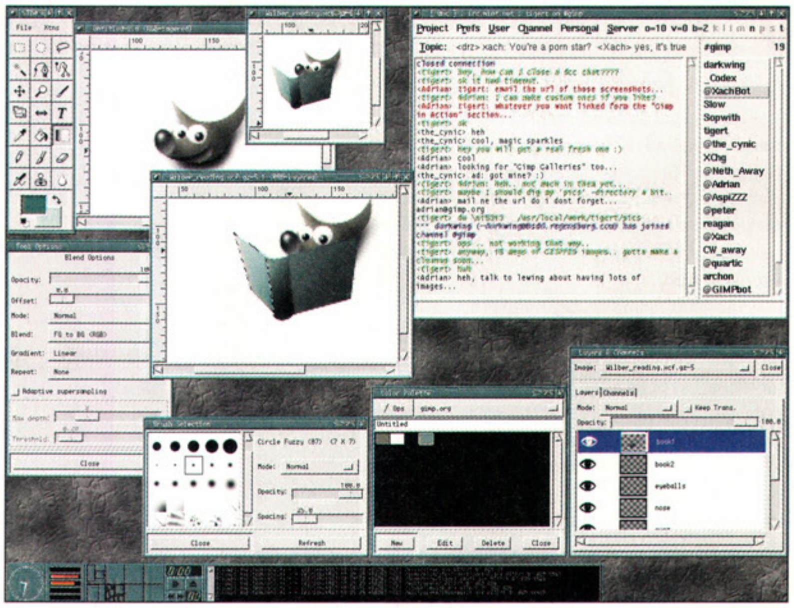
In 1983 Richard Stallman set up the Free Software Foundation an initiated the GNU project (GNU's Not UNIX). The goal of GNU was to produce a freely distributable clone of the UNIX operating system and tools. At that time AT&T, the then-owners of UNIX, were beginning to seriously market UNIX for the first time and adopted a closed source policy.

Stallman, the inventor of Emacs, is sometimes regarded as the father of the free software movement, the last true hacker. He penned the GNU General Public licence to give freedom back to software's users.

The GNU project contains much first-class software such as Emacs, GNU C/C++ and the GIMP, but the project was floundering for lack of kernel to use in their operating system. Their own HURD kernel, which functions as layer over the Mach micro-kernel, was proving more difficult to test and debug than had been thought. In 1991, Linus Torvalds first released Linux, which neatly filled the hole. The GNU/Linux operating system was born. Hurd has not yet reached a stable status, but Debian, for instance, ship a GNU/Hurd distribution.



Richard Stallman: the inventor of Emacs is also widely recognised as the father of the open source movement.



The UNIX art package GIMP is a Photoshop clone that really demonstrates the power of the open source movement.

4 The freedom to distribute modified versions of the software, so that everyone can benefit from the improvements you have made.

(A common example of an open-source licence is the GNU GPL or General Public Licence. See boxout.)

The second freedom above implies that for a program to be free, its source code must be distributed with it. This is the origin of the term open source. Anyone can study the inner workings of a program, see how it works and make changes as they see fit. They can distribute modified versions, even charge for them (this last is unlikely since the same licence applies to any derived programs, allowing someone else to distribute it for no fee).

> *The reason why open source development is not anarchic is because the open source community is just that: a community*

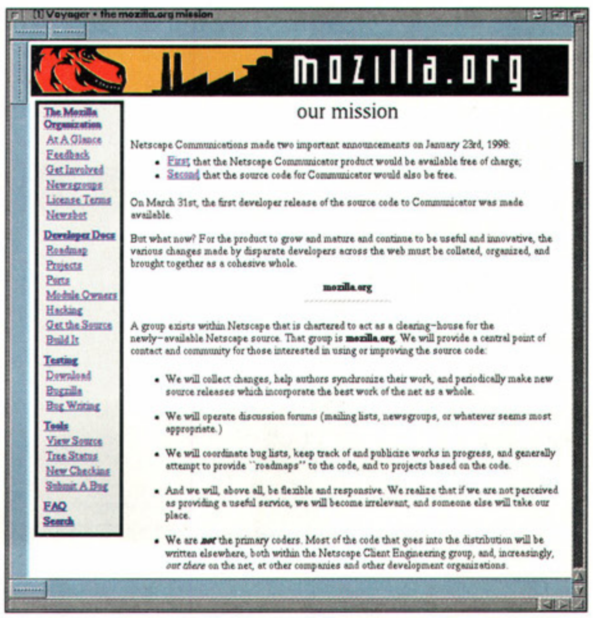
The above freedoms could potentially make the open source arena a chaotic place. Since anyone can modify and distribute software, a single project could splinter into a hundred different variants of the same product. This doesn't happen, though. Projects do split occasionally, but usually for valid reasons. Often, the two child products will be merged back into one whole at a later date (this is happening with gcc and its offshoot, egcs).

The reason why open source development is not anarchic is because the open source community is just that: a community. There is an unwritten code of practice, a strong sense of what constitutes ethical behaviour and a concern about the welfare of the community.

THE CASE FOR

Many people think that open source software is inherently less reliable than its closed source counterparts. They believe that the chaotic nature of open source development means that it could not possibly be as trustworthy as ordered, closed development. Such a view contradicts the available evidence, however. The Internet is run on free software: *Apache* powers 50% of the Net's web servers; the scripting language *Perl* does the majority of server-side processing of content on web sites; sendmail is the most widely used mail transport agent on the Internet; and BIND provides name resolution (DNS) for the entire net. In addition to this, several independent studies have been conducted that highlight the increased reliability and security of free operating systems over major proprietary systems.

Open source software, then, is more reliable and secure than proprietary software. Why should this be so? Well, the hardest part of writing software is checking that it is correct. Ideally, software should be reviewed by somebody outside of the core development team. With closed development this is difficult and costly. However, with the open-source model, because the software's source code is available for anyone to inspect, bugs are



Mozilla is the group in charge of the development of the source for Netscape Navigator.

Continued overleaf ➡

THE CATHEDRAL AND THE BAZAAR

Eric Raymond – writer, hacker and author of *fetchmail* – wrote a paper in 1997, entitled the Cathedral and the Bazaar. It was an analysis of how the open source method (the Bazaar of the title) worked and why, when it worked, it was more effective than closed source development (the Cathedral). This influential paper is supposedly what persuaded Netscape to launch the Mozilla project.

The conclusion that Raymond draws – from studying Linux development and his own experiences with fetchmail – is that to be successful, the maintainer (or manager) of an open source project must look after his users. After all, each user is a potential tester, contributor and developer. The problem is, though, how to maintain the user's interest. Firstly, the product must be useable. Consider the rapid evolution of the Linux kernel compared to the relatively slow pace of the Mozilla project. This can be explained by the fact that, for a long time, the Mozilla group could not ship a fully working product, whereas the Linux kernel has been useable since Linus made his first release. The second way to sustain interest is to make frequent releases of the software. Weekly or daily updates keep the momentum going and increase feedback from users. Users compete with each other to be the first to spot and fix bugs in a new release.



Eric Raymond: "To be successful, the maintainer of an open source project must look after his users".

exposed to rigorous scrutiny. Problems are found and fixed rather than kept secret.

Moreover, the location of a greater variety software faults is possible via open sourcing. To borrow a phrase from complexity theory: bottom up exploration of a problem space is more effective than a top down one. Each user of an open source product is a potentially an independent tester and contributor to the project and

> Over 75% of programmers actually get paid for maintenance – the correction of faults, addition of features and modification

likely to encounter and fix different problems from his neighbour. Even if this isn't the case, thanks to the rapid communications provided by the Internet, duplication of effort is uncommon. A related issue is that, since users largely have common needs, the improvements that they add to a project will be features that users genuinely require rather than simply the features that the developers think they want.



Tux the penguin is Linux's mascot – you'll see him everywhere in the UNIX world.

Another aspect explaining the superiority of free software is that people contribute to open source projects for reasons other than material gain. Whether they are idealists, or just crave the kudos, they are true amateurs in the sense that they do it for love rather than for money. The old adage rings true that one volunteer is worth ten pressed men.

MAKING MONEY?

The usual argument against open source is that if you give the software away for free, how do programmers get paid. This is a rather obtuse point of view.

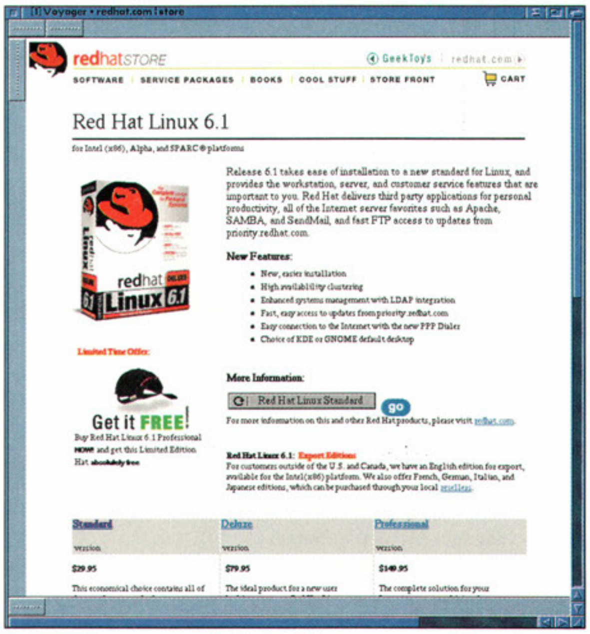
Software companies typically generate income from the sale value of a product – the value of the software as merchandisable goods, rather than its use value – its value as a tool. The imbalance here is that the sale value doesn't reflect the cost of developing the software. Over 75% of programmers actually get paid for maintenance – the correction of faults, addition of features and modification due to changing requirements. Most companies would do better to charge a minimal price, or nothing, for their software, thus making open sourcing practical, even though this would mean they would then have to generate their income elsewhere. There are four proven ways of generating revenue from free software:

1 Support selling (or Give Away the Recipe and Open a Restaurant). You provide the software for no charge, or the minimal distribution costs, and sell added value. A good example of this, is the Linux vendor RedHat. They sell free software, a distribution of the GNU/Linux operating system, that is tested and guaranteed to work with a range of specified hardware and third-party software, and they provide after-sales support for users.

2 Loss leader/market positioner. You give away software as a loss leader or to grab market share from a closed competitor. A good example of this model is Netscape. When Microsoft began bundling its web browser, Internet Explorer, with Windows, Netscape actually made around 85% of its revenue from selling its server software and from advertising on its portal site, not via sales of its web browser. Since open sourcing, they have regained much of the market share that they lost to Microsoft.

3 Widget frosting. Hardware manufacturers make money from selling hardware; the software they supply, such as drivers, is merely a necessary evil required to sell their product. They are therefore not in danger of losing revenue by open sourcing. In fact, the reverse is the case, since there is the possibility of users performing free ports to other operating systems and thereby creating a larger potential market. Traditionally, hardware companies have been loathe to let prying eyes at their source code, in case competitors would gain knowledge of the inner workings of their products. However, due to the rising popularity of Linux, manufacturers such as Adaptec are becoming more open.

4 Accessorizing. You make money by selling accessories for open source



Red Hat Linux represents the best-known commercial venture based around the open source philosophy.

WHAT ABOUT GAMES?

This article and the open source argument in general applies to serious software – operating systems, tools and applications.

The games industry is driven by innovation and novelty. The economics of game development is different, too. The reliability of game software is not critical; games typically have a short shelf life and require no after-sales support; and players crave a steady stream of new and different gaming experiences.

Successful games typically are created by a combination of technical and artistic skill. Maybe the game engine has some new feature never seen before or pushes the hardware further. Games writers thus have reason to guard their source code closely; it's what gives them the edge over their competitors. On the other hand, games are more than just software; they require a plot, level design, hand-drawn graphics, textures, a score and so on. These are one-off components, and they are all crafted separately for each project.

The only advantage in open sourcing in the context of games is to steal mindshare from your competitors and broaden your market. This is exactly what id software have done with games such as *Quake* and *Doom*. While both of these games were cutting-edge when initially released, they have been surpassed by the state of the art.

Open sourcing will not give away any secrets or cause revenue to be lost. On the other hand, it does no end of good for the id brand. It exposes their name to more players than before, even to different platforms.



The games industry has a particular interest in keeping code secret – but there is an advantage to open sourcing here, too.

products. This could range from mugs, T-shirts and cuddly penguins to high quality printed documentation. The publisher, O'Reilly and Associates, is an example of a successful accessorizing company with their range of reference books on Linux, UNIX and other open-source software.

OPEN SOURCE AND THE AMIGA

What does all this have to do with the Amiga? After all, the Amiga operating system is a prime example of non-free software; development of the OS is closed, redistribution forbidden and, worse, key parts of its technology are patented. Moreover, perhaps because of its micro-computer heritage, there has never been a spirit of sharing software and source code in the Amiga community, though there are some notable exceptions.

> *Perhaps because of its micro-computer heritage, there has never been a spirit of sharing software and source code in the Amiga community*

The Amiga equivalent to the open source community has been the so-called "public domain" market. Don't get me wrong; this has been the source of much of the best Amiga software and has been one of the reasons that the Amiga community has survived the wilderness years. But software distributed under freeware or shareware licences is still not free. Even though freeware is available at no cost, unless source code is supplied, it is not open. The consequence for the Amiga community is unreliable software and much duplication of effort. The irony here is that the Amiga has benefitted enormously from open source projects. The Amiga has been inundated with high quality, useful software ported from various open source initiatives. The list is long and includes programs such as *GNU C/C++, Emacs, ISPell, Apache, Perl, GhostScript, Lynx, PGP* and more. However, it's not just serious software. The Amiga's flagging games industry has been bolstered by open source conversions, too. Players have extra titles to choose from and Amiga developers have gained valuable experience in modern game-writing techniques, which they can now apply to new projects.

THE HOLY GRAIL

Since the demise of Commodore, there have been various elements of the Amiga community who have campaigned for the open sourcing of AmigaOS itself. With the recent failures of Gateway and the birth of COSA (Campaign to OpenSource AmigaOS), the question has been asked with increased vigour: is it possible to open source AmigaOS itself? And, if so, would it be desirable?

The usual arguments in favour are that the Amiga community wants AmigaOS ported to new hardware platforms. Amiga users look at the rapid evolution and fecundity of Linux as a model they wish to copy. But a simple wave of the open source magic wand wouldn't suddenly make a PowerPC version of AmigaOS appear out of thin air. As Eric Raymond argues, you need a fully working product to make best use of the power of open sourcing (see boxout: The Cathedral and the Bazaar). Take AROS as an example. This is the project to produce a portable operating system that is source and binary compatable with AmigaOS. Now, AROS is an impressive project, but, after five years of work, they are still only just over half finished. This is due to the very reasons that Raymond outlines. The same problem would occur with a port of the official AmigaOS. Until there is actually a functional PowerPC port, for example, the open source community will not be able to offer much help.

The other problem with open sourcing AmigaOS is related to the licensing issues of software included in AmigaOS. For example, the Compugraphic font engine in the bullet.library is licensed from Agfa and the ARexx interpreter licensed from William Hawes. These licences gave Amiga the right to distribute these software with AmigaOS, but it doesn't give them the power to distribute the source code. Another issue is whether open sourcing AmigaOS would breach any of the Amiga patents still owned by Gateway. All such problems can probably be resolved, but they will take some legal wrangling.

The new Amiga Corporation is keen to open source the OS, but they need to think carefully about how it will be done. They need to appoint a maintainer to oversee the development and control the merging of changes into the main source code. It needs to a person or body with the time, energy and expertise to do the job properly. Otherwise, the danger is that various insular members of the Amiga community will think they can do better and fork development. Perhaps, someone from OS3.5 development team or Haage and Partner, could be our Linus stand-in.

Richard Drummond

PLACES TO VISIT

The Internet is the home of open source, so if you want find out more or get involved with a project, then the following websites are a starting point:

The Open Source Initiative	http://www.opensource.org/
The Free Software Foundation/GNU	http://www.fsf.org/
Eric Raymond's home page	http://www.tuxedo.org/~esr
The Linux Kernel Archives	http://www.kernel.org/
The Mozilla Organization	http://www.mozilla.org/
The Apache Software Foundation	http://www.apache.org/
O'Reilly and Associates	http://www.oreilly.com/
COSA	http://www.savetheamiga.org.uk/
AROS	http://www.aros.org/

Screen Play

Previews

They're on their way, sidling ever closer, pawing the ground to get at your Amiga – the new games are a-coming boy!

Screenplay is looking decidedly slim at the moment – I was really hoping that we'd be able to bring you reviews of *Putty Squad* and *Goal 2000*, but we've not been able to get hold of copies. Another game that wasn't finished in time to make it into this issue is *Nightlong*, which we were hoping to cover with an exclusive review, but it looks as though we'll have to wait a little while longer for that too. *Heretic 2* should be putting in an appearance very soon, which promises to be a real treat for those of you with high-spec Amigas. So that's what we've got to look forward to, but it leaves us with only *Whale's Voyage 2* for the time being. I wouldn't mind so much if the game had been nearly as good as I've been expecting, but as you'll see from the review, it's not done much to lift my spirits. In Gamebusters we wave a fond farewell to the *Wasted Dreams* solution. Happily Digital Dreams are nearly ready to release *Hellsquad* and have just announced that they've begun work on *Wasted Dreams 2*. That's all I know at the moment, but expect to see pictures as soon as I can get hold of them.

Paul Cavanagh

SCREENPLAY INDEX

24 Previews
Set off on some more adventures in a wonderfully diverse series of environments.

26 Whales Voyage 2
Travelling through space in a giant fish turns out to be a dog. (Actually, it's a mammal – Ed.)

28 GameBusters
We come to the end of our Wasted Dreams and meet some T-zerø cheats.

Seaside



Epic Marketing is set to release this resource management game imminently, and it's looking very interesting. *Seaside* is a new take on the ideas that *Theme Park* succeeded with all those years ago.

As an entrepreneur in the hospitality industry, the idea is to keep tourists happy while you get stinking rich off them. Like *Theme Park*, you'll be responsible for managing ice cream and hot dog stands, skimming off maximum profits while still trying to remain competitive. But instead of building white-knuckle rides, you have to attract tourists to your resort by building and decorating holiday homes, and providing your happy grockles with lakes to fish in.

Okay, it may not sound like much fun at first glance, but with constantly changing prices, weather conditions and maintenance problems you'll be kept busy. If you look at the screenshots and consider that you'll be able to decorate your ten different varieties of holiday homes in over a thousand ways, it might just bring out the Carol Smilie in you. Still not interested? How about introducing a virtual pet that you have to look after? Bizarrely, there's also a *Pacman* subgame. It looks like there'll be plenty to keep you occupied here.



Hello Campers: Seaside puts you in control of your very own traditional holiday resort.





Decorate your chalets in a thousand different ways and wring your hands with avaricious glee as the grockles roll in.

Source Code Update

The *Quake* source code has only been in the Public Domain for a very short time and there's already a PPC conversion available on the AFCD for this issue. Remember though, it's only the game engine that's free, not the levels; you'll have to buy those.

What's more, Bungie Software have now released the source code for their Mac game *Marathon 2*, so if you've got the time and the talent to do an Amiga conversion, check out Bungie's ftp site at ftp://ftp.bungie.com/pub/mac/misc/ to get hold of the code.

Confused by all this source code stuff? Go to page 20 and Richard will happily explain everything in (relatively) plain English.



MARATHON 2 DURANDAL

If you can deal with source code, you could get cracking on a version of Marathon 2.

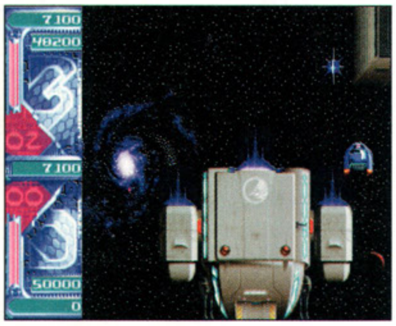
UVW



Sydney based Vorlon Software have completed a classic shoot-em-up called *Ultra Violent Worlds*. I'm hoping that we'll be able to get hold of a copy for review, but if you're a die-hard fan of the genre and can't wait to part with your money, you could post a cheque for £15 to Vorlon Software, 133-135 Alexander Street, Crows Nest, NSW, 2065 Australia.

Their website has got a link to a secure server if you want to pay by credit card: http://www.vorlonsoftware.com. You'll be needing an AGA Amiga with at least 4MB RAM.

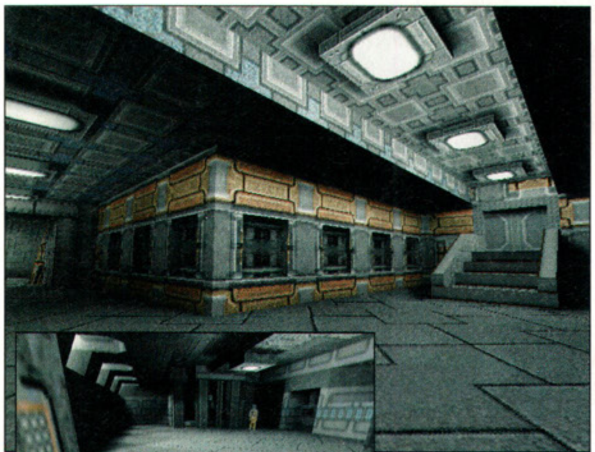




Aussie no-rules: Sydney-based software company Vorlon has released Ultra Violent Worlds. At this point, we can only trust that it has been aptly named.



Enforce





Providing that your machine is up to running it, Enforce looks like it could keep you busy for some time.

Czech developers Insanity are busying themselves with their new 3D role playing game. No ordinary first person shooter, *Enforce* will require you to gain experience to become more effective in combat.

In addition, you won't simply be able to pick up ammo and weapons; in true RPG style you'll have to earn and save the money to buy them instead.

While the game is mission based, it will be non-linear, with the missions appearing at different stages during the game each time you play.

Features include rain and water effects, fully dynamic lighting, fogging, translucent skies and textures and 3D sound. The game environment contains moving cars and tube trains.

If *Enforce* delivers all that it's been promising it should be very good indeed .But with detail like this, it's no surprise that the game will require a PPC based Amiga with a graphics card, AHI sound card and at least 32MB RAM.

Keep up with all the latest details at Insanity's website: http://www.rebol.cz/~insanity/enforce.htm.

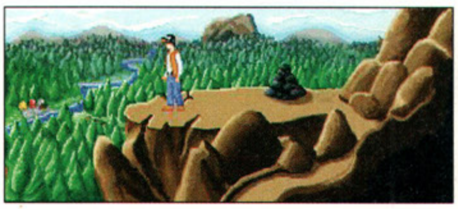
In the Shadow of Time

This adventure game has been in development for years now and has undergone several revisions. Based on developer Shadow Elk's passion for *Monkey Island*, the game will feature plenty of silly dialogue, over 30 characters and 90 locations. Apparently there will also be multi-character control (whatever that is), 384 colours on screen, an advanced sound system, and an innovative control system. Epic Marketing have agreed to distribute the game, but are unsure as to when it will be finished. Check out the Shadow Elk website at http://home1.swipnet.se/~w-10724/IST.html for more screenshots and a downloadable demo.



Stable relationship: our hero meets a man and his horse.

Paul Cavanagh





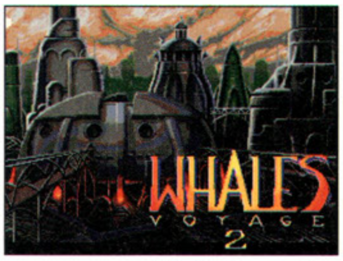


Adventuring in the Shadow of Time will take you to over 90 locations, of which here are but three – a rocky outcrop, a wigwam village, and a local shop.

Whale's Voyage 2

Fully stocked up with an eagerly awaited combination of classic gaming elements, can the Whale deliver the goods?

This is a game that I've been looking forward to for ages. With the promise of role-playing, space trading and battle strategy, along with in-game speech, 3D graphics, and cut-scenes, I thought we were in for a real treat. Even the fact that this isn't really a new game (it was released in Germany some years ago) didn't put me off; after all, some of the best games are the old ones. But now that I've actually played it, there's a real sense of anti-climax.



Whales Voyage 2: now available in the UK.

Generation game

In *Whale's Voyage 2* you make your living by cruising through space, getting into fights, and then landing on planets and exploring them. The promised game elements are all there, so why am I left feeling so disappointed? Well, first up is the hassle involved in installing the game. Although it is possible to play it direct from the CD, this causes error messages and crashes. According to the installation instructions, you have to unpack DMS files to floppies and then install from the floppies to the hard drive.



This is clumsy, long-winded, and a right royal pain.

Then I discovered that there wasn't any documentation for the game on the CD (after a lot of searching I managed to find instructions for the original *Whale's Voyage* game).

> **There are some radioactives in the hold and you've got to try to get a licence in order to unload the dodgy cargo**

When you do eventually get to start your game, you have to go through a character generator where you muck about with your team's statistics and stuff, which is really rather boring.

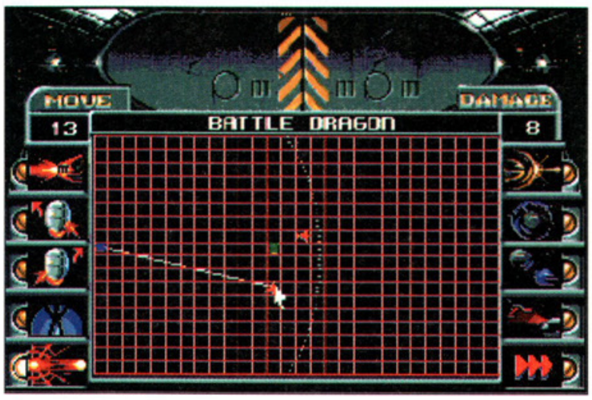
Starting the game proper finds you in charge of the Whale – your spaceship. There are some radioactives in the hold and you've got to try to get a licence in order to unload the dodgy cargo. So you beam down to the planet's surface and start asking about getting one. Now, as your team goes about, you will notice the heavily pixelated graphics, the lack of detail (rooms that contain tables but no chairs, rooms that never have ceilings: in short, nothing that makes you think: "Oh, what a nice touch". Visiting different planets changes superficial details like the colour of the walls and the appearance of the people you meet, but essentially each planet has a relatively small area to explore, with lots of boring rooms, and a shop.

At some point in your explorations, you will find yourself stopping to wonder how the occupants of these planets glide about as though they were all on roller skates, how they walk backwards, and how contrived are the conversations you have with them; conversing with them is achieved through the age old RPG method of picking a sentence from a list. Achieving objectives in the game largely consists of talking to everybody and then following any advice you are given.

There are other old RPG chestnuts to the game elements; different types of characters learn different skills with experience (doctors heal members, soldiers identify weapons, etc) and all your characters have the usual array of statistics showing strength, defence and



Character generation and manipulation turns out to be a rather tedious affair.



The graphics in the battle sub-game are not cutting edge.

WHALE'S VOYAGE EPISODE I

I've been playing the CD32 version of *Whale's Voyage*, and it looks pretty good. It's essentially the same game as the sequel, but better presented. The game is joystick controlled, which is a rather fiddly, and there's no texture mapping in the RPG so you move along one screen at time, rather than scrolling. On the whole, a worthy addition to the CD.





(Left) Here's the trading screen in the original game, and (Right) you can see Walter Wim who you'll end up searching for in Whales Voyage 2.







Space travel may seem exotic to earth-lubbers, but when you actually have to do it for a living, all the planets soon end up looking the same – I can tell you.

all that stuff. While you can assign tasks to each of your members (they can look out for traps and tell jokes to keep morale up) I never really felt like I was controlling a team; you can't split them up and send individual members on missions – and you only ever get one viewpoint. I preferred the approach taken in *Hired Guns* where you control each member of the team separately.

To be fair, the RPG element in *Whale's Voyage 2* does give you plenty to do, it's just that it's all rather repetitive.

As you progress, you will be able to invest more money in your cargo.

Space trading

I enjoyed the space trading element more, but again the presentation leaves a lot to be desired. At the start of the game you have a small amount of money and the aforementioned cargo of radioactives (don't expect a reward for messing about with getting a licence, because you won't get one).

Making money is a slow process at first, because you can't afford to buy much of anything, but the profits build up slowly. The rules of supply and demand dictate that a supplier will raise prices if you buy a lot of any particular commodity, and that likewise, if you keep supplying someone with goods, he'll eventually have more than he needs and the offering price drops. Once you've made a bit of cash, you can start dealing in the more lucrative luxury goods markets (gold and silver offer good returns). If you can afford to stock up on the illegal goods you're offered from time to time, you can really start stacking the cash. I managed to make vast profits selling stuff like alien slime and explosives and never once got nicked, which seems a little odd. There is a risk involved though, as sometimes the dodgy goods will be offered at a much higher price than they're worth, so you just have to be careful. I eventually earned enough money to buy every bit of kit I could find for the Whale – extra cargo space, a fuel enhancer that allows you to travel further, a cooler for perishable goods, an economy scanner that tells you what commodities are wanted on a planet, and a glider for you to explore a planet's surface looking for new cities. The glider can also be coupled with a mining unit and an oil pump so that you can retrieve valuable minerals from planets. Other add-ons apply to the strategy element of the game.

Occasionally you'll get attacked by pirates and the battle screen will come up. This is simply a grid where the Whale is represented by a blue block, and the enemies by white ones. This sub-game is turn based, with every move you make costing action points. At the start of the game, you haven't got much of a chance of winning a battle, as the Whale isn't equipped with any weapons, so the only option is to be destroyed or surrender. You might just be able to escape by moving to the edge of the screen, but it's unlikely. I got around this problem by saving the game every time I safely reached a new planet, and just reloading if I got attacked. When your ship is suitably equipped, you can fire back, gain more action points, and use shields or a cloaking device. If you have a battle computer, you can detect freighters and attack them for their cargo.



You can set tasks individually but characters always travel together.

I found this section of the game to be at first stupidly difficult (as above) and then simplicity itself once I'd bought all the necessary kit. Suffice it to say that the battle sequences are ten years out of date in terms of graphics, sound and gameplay. Oh dear.

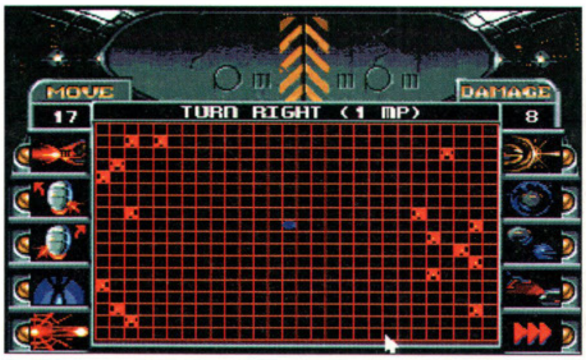
Ultimate disappointment

I have so far experienced no rendered cut-scenes and the in-game speech appears to be non-existent. There is a music track on the CD, but it won't play at the same time as the sound FX on any of the office Amigas.

There's a fair bit of play in this game, especially the RPG bit, and when you consider that you get the original game for your money, if you like this enough you could be playing for a long time.

What really lets this game down is the presentation (I suspect that I've been playing the ECS version and that the AGA has been accidentally been omitted from the CD along with the instructions). All in all, it's such a disappointment. Sigh.

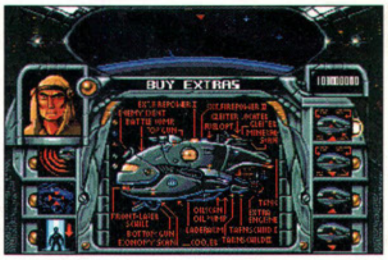
Paul Cavanagh



A battle: the little blue blob in the middle represents the Whale.



This is the view from the glider where you can seek new cities and raw materials.



Kit out your craft properly to become the toughest kid in the sector.

SUPPLIER: Alive Mediasoft
Tel: 01623 467579
PRICE: £19.99
REQUIREMENTS: CD-ROM

Pros and Cons

- \+ Two large games on one CD
- \+ Three styles of gameplay
- − Very poor presentation
- − Installation hassles and no instructions

OVERALL VERDICT:
A great idea that has been poorly implemented. Playable, but don't expect to be stunned.

45%

GAMEBUSTERS!

The journey ends for our Wasted Dreams walkthrough, while T-zerØ cheats creep in for the first time

Wasted Dreams PART 4 Complete Walkthrough

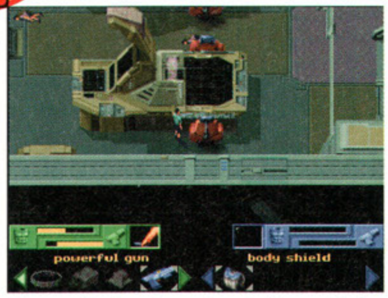
Looking back to part three of this solution, I left you holding two priority cards. You've probably already worked out what to do with them, but if I didn't tell you, this wouldn't be a complete walkthrough, would it? So, return to the room where you first entered the sewers and use the priority cards on the doors on the right.

Walk through into a control room. Talk to the guy at the terminal and shoot him when he attacks you. Have a good poke around and use both terminals before teleporting. Shoot everybody in the new room and use the new recharge unit on the right. Collect a hologram and a powerful gun from the lockers on the right and use the terminals before leaving the room. Things will get pretty frantic from here on; battles occur every few seconds, so make good use of the recharger in this room.

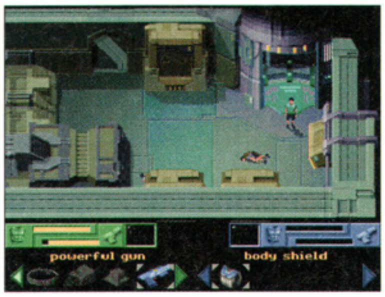
When you've collected everything from this room, leave through the door, top right. Clear this area, and the area to the right, of all enemies, using the recharger as necessary. When you've done that, go up through a canyon. You will be captured and more of the plot will be revealed. When you are released, collect the bomb from the locker on the bottom wall and go right. Go down to the point where you were captured, then down and right. Use the bomb to enter the building on the right. Make sure that your shields are fully charged before you use the escalator, because once you're down, there's no turning back. From now on, you will be attacked regularly, and you will have to get rid of everybody who stands in your way. Go down the escalator and, when you've cleared the room of the enemy, sit down on both terminals to open two doors. Go down, fighting all the way, until you reach a room with another recharger. As before, you should return to this room whenever your shields get weak. There is also ammo in the locker here. Go back to the room with the escalator and then up. Clear this corridor of the enemy and go through the door, top right. Attack the people in the room and then take a lift card from one of the bodies. Use the terminal on the right side of the room to activate a teleport. There's also ammo in this room if you need it. Return to the recharger, but be careful as you will be attacked on the way. Use the recharger, leave the room and go right, up and then right into the next room, fighting all the way. When you've cleared the area, use the terminal with the chair. Leave the way you came, go left and down, then through the door on the right. There's only one bad guy in here. When you've got rid of him, make sure you've got full shields and ammo before using the lift card on the left-hand teleport.



He can swim rivers, find his way out of the sewers and take on the forces of evil, but can he go the wrong way on an elevator? No.



Always check out any terminals you find.

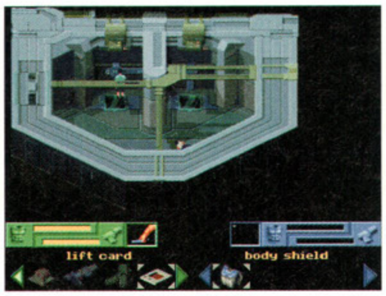


Make frequent visits to this recharger.

Things get pretty frantic from here on, with battles occurring every few seconds, so make good use of the recharger in this room.

You need to search your victims to find the lift card.





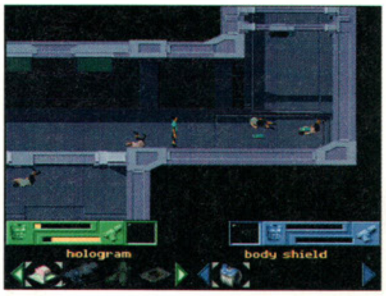
Charge your shield before teleporting.



The fighting gets ferocious in this room.



This corridor becomes the scene of a massacre...



...And you can confuse the guns with the hologram.



Sneak along with your hologram ready...



You really do need that powerful gun for the last section.



At last! This is where you finish the game.

Clear the area and use the terminal on the right wall to open the door and exit. Attack the guys here and then go left into another room. Use the terminal immediately in front of you before attacking the occupants of the room. Find the computer key in the locker on the left-hand wall, and some ammo just above that. Return the way you came and go up. You'll have to get rid of everybody in this corridor, which is no easy task. When you've done that, go through the door half way up the corridor on the right, where you will have to endure another very difficult battle. When you've won, use the terminal to open a door. There is also some ammo in one of the lockers. Go back to the corridor and proceed up and right, through the door. Attack the guy and keep going right through the door, where you'll be attacked. Go up and then left or right, shooting all the way. When the corridor is clear, select the hologram from your inventory and proceed with caution. When you see the animated icon, use the hologram. This will allow you to bypass a security system. Go through the door. Attack the men in this room and use the computer key on the terminal, top right. Sit back and enjoy the end credits. Finito.

Paul Cavanagh

T-zerØ Cheats

Markus Juntti has emailed us with these cheat codes for the AF Gold winning *T-zerØ*. Enter the code as your high score and then start or continue a game to activate the cheat. Thanks Markus!

ZOD0	Starts a two player game from world 3 with 9 lives.
IDKFA	Gives better weapons that don't degrade when you lose a life
9LIVES	Starts a new two player game with (you guessed it) nine lives
MESTRE	Watch the end sequence
WKAKY	Markus thinks this might give you a better craft, though it didn't seem to do very much when I tried it. But give it a go anyway.



Level three is really tough, so the extra lives really come in handy.

Monkey Island 2 (again)

It seems that many of you are still having problems with that nasty Le Chuck feller; we have queries coming in nearly all the time. Raymond Johnson from Newcastle is stuck on the part of the game where you have to mix the two drinks together and where you need to find the metronome. Well, presumably you're in the bar on Scabb Island, right? The metronome is on top of the piano there. Use the banana on it.



Metronomes, it seems, are very good for chopping bananas.

SEND US YOUR TIPS & QUERIES!



Have you got hints, cheats, tips or general good advice for any Amiga games? We'd especially like some for the newer ones on the market. Or, if you've got a query about a game, give us a brief explanation of it, where you're stuck, then drop us a line and we might be able to answer it in Helping Hands. Please don't send us SAEs though as we'll just steal the stamps.

Name of Game(s): ....

Point where I'm stuck: ....

....

....

....

Send all tips and questions to:
HELPING HANDS • Amiga Format • 30 Monmouth Street • Bath • BA1 2BW



PD Select

On the CD -In_the_Mag-/PD_Select

Just when you're feeling lazy, along comes another fine mélange of freeware that will empty your bin and check your mail for you

NewIconEmu

The release of OS3.5 was not all happiness and light for everybody. Users of desktop replacements such as *DOpus* and *Scalos* were initially unable to view the new Color Icon images which were a new feature of OS3.5. An update for *DOpus* has been released to correct this, but users of *Scalos* are still unable to see these new icons correctly.

A new icon datatype plug-in was created by *Scalos* author, Stefan Sommerfeld, but this was bugged and did a poor job of rendering the new images; all Color Icons were displayed with a border and the background colour within the border was not transparent. The new maintainers of *Scalos*, Satanic Dreams, are currently working on a fix for this problem, but until they solve it a handy solution is *NewIconEmu* by OS3.5 supremo, Stephan Rupprecht.

NewIconEmu is a drop-in replacement for the newicon.library which converts the new Color Icons into NewIcons on the fly. That is: it allows any program that is capable of handling *NewIcons* to be able to handle OS3.5 Color Icons. It's neat, simple and it works. It is not a full replacement in that you will no longer be able to save *NewIcon* images, but if you have OS3.5 this is no great loss anyway. For *Scalos* users it immediately means they can see the new Color Icons. As a bonus, you also get OS3.5 DefIcon handling. You can use Stephan's *DefIcon44* package (reviewed previously) and get fake icons for icon-less files according to their filetype, with a working preferences editor - rather than the quirky icon filetyping system that was shipped with *Scalos*. Satanic Dreams still have some work to do, however, since it doesn't fix AppIcon images. Curiously, AppIcons no longer even get *NewIcon* imagery but the old-style planar icons. And of course, you still get none of the new OS3.5 AppIcon features, such as the interpretation of the extra menu commands and animation. But, hey, it will do for now.

NewIconEmu is not merely useful for *Scalos* users, though. Many of the *NewIcons* tools will work perfectly with it as well: *CopyNewIcon*, *CreateDefaultIcon* and *UpdateDrawers* to name a few. The author has also tested this emulation successfully with *Iconian*, *ShowNI* and *DT2NI*. In addition, the replacement for Workbench's Icon Information requester, WBInfo, will also now display Color Icon imagery in conjunction with this library.

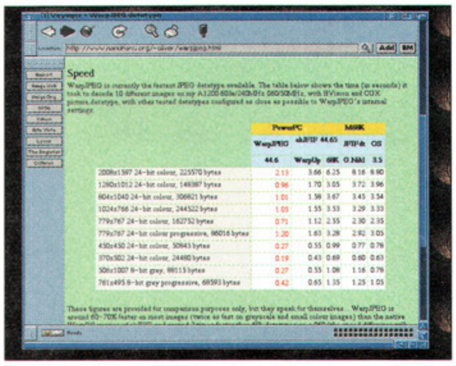
Until more software is released which can manipulate OS3.5's new icon format, *NewIconEmu* is a god-send. Well done, that man!



Now Scalos users don't have to feel left behind. They can get new, colourful icon images with NewIconEmu.

BY: Stephan Rupprecht
WARE: Freeware
FROM AMINET: util/libs/NewIconEmu.lha
SIZE: 2K
REQUIRES: OS3.5

WarpJPEGdt 44.6



Is it a bird? Is it a plane. No, it's WarpJPEG.

PowerUp boards have been around for over two years, so you'd think somebody would have produced a decent PPC datatype for handling JPEGs by now. But, no. This is odd, since image manipulation is a job which the Amiga's PPC co-processor excels at and source code for decoding JPEGs is freely available.

Enter Oliver Roberts, who you may know, either for his enthusiasm for Microprose's *F1GP* or for his many contributions to *AF*. He has produced what is easily the fastest PPC JPEG datatype. What's more, it is free and works under *WarpUp*.

Due to *WarpUp*'s mixed binary format, *WarpJPEG* exists as a single plug-in module. It is thus compact and elegant, and it does not require any dithering routines. *WarpJPEG* is designed to work only with a 24-bit picture datatype, either that from the Picasso96 or CyberGraphX distributions or the one supplied with OS3.5. Therefore preference editor is required for this datatype.

But the main advantage of WarpJPEG over other JPEG datatypes available is speed; it decodes images about 60-70% faster than the WarpUp version of the akJFIF datatype and around three times faster than the 68K version running on an 060.

This is the best JPEG datatype available to date. Oliver also has produced a similarly excellent PNG datatype, which is also available from his website.

BY: Oliver Roberts
WARE: Freeware
FROM: http://www.nanananu.org/~oliver/
SIZE: 21K
REQUIRES: WarpUp V15, a 24-bit capable picture.datatype

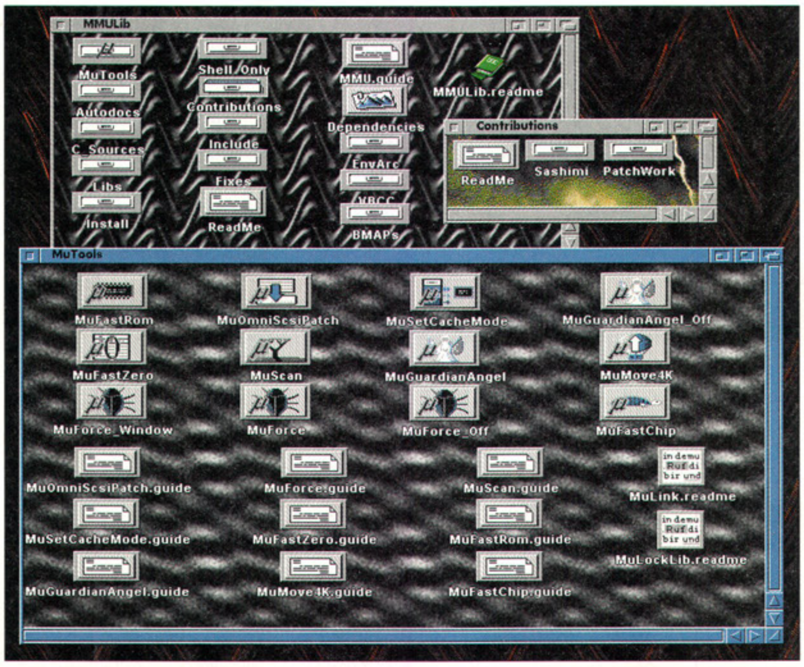
MMULib

Every Amiga owner serious about their machine should have a 68K processor with a memory management unit (MMU). Curiously, however, the MMU is probably the most underused component in the system. This is because it is largely ignored by the Amiga operating system, tending only to be used for clever hacks like mapping the Kickstart ROMs into fast memory or speeding up Chip memory access. For more information on the tricks that the MMU is capable of see Simon's Banging the Metal column from *AF*132.

Thomas Richter's mmu.library is a standard shared library which aims to provide a consistent and system legal interface for application control of the MMU. The eventual goal is to implement a shared library which will furnish client software with virtual memory functions. This may still be some way off, but there is plenty of useful tools and material in this package anyway.

The core of the distribution is the mmu.library itself. This is what provides the interface for MMU programming. Copious amount of documentation and source code are supplied should wish to get your fingers dirty twiddling in your machines innards. Also supplied are MMULib-aware versions of the 68040.library and 68060.library. For space reasons the 040 and 060 processors were designed with a reduced implementation of the full floating point instruction set and the missing instructions must hence be emulated in software. This is what these libraries do. They are direct replacements for the versions supplied by the various hardware manufactures and should function with the majority of accelerators. The advantages are speed – both are based on the latest emulation code from Motorola so should permit full performance of FPU software on your machine – and lower memory requirements – both make use of the MMU tables built by MMULib (proprietary versions of the libraries create their own tables).

This is not all; many hacks and tools have been created over the years that manipulate the processor's MMU for ingenious ends. But because there was no common interface for programming the MMU, many of these tools are incompatible. New versions of the most useful have been created using MMULib and can now live in harmony. MuForce and *MuGuardianAngel* replicate the developer tools *Enforcer* and *Mungwall; MuFastChip, MuFastZero* and *MuFastROM* are tools that use the MMU to remap various areas of system memory from slow memory into Fast memory, so speeding up your system; and *MuMove4K* is a new version of the *PrepareEmul* wedge required by *ShapeShifter*, the 68K Mac emulator.



MMULib might not be much to look at, but it includes a wealth of interesting material.

Installing MMULib on your system can be rather tricky. It has to be done by hand, since no install script is provided. However, you can install the system piece by piece and check what works with your setup; you don't have to go the whole hog if you don't want to. MMULib is configured by a text file which you can modify with a normal editor. An ARexx script is provided to automate its generation and then you can tweak the results manually to get the best performance.

If you have a non-autoconfiguring accelerator in your machine – such as most of phase5's recent products – then matters will be complicated slightly, but the documentation supplied is very thorough. Another factor to consider is that phase5's ppc.library hogs the 68K's MMU and so is incompatible with MMULib; WarpOS, on the other hand, works as does the ppc.library emulation.

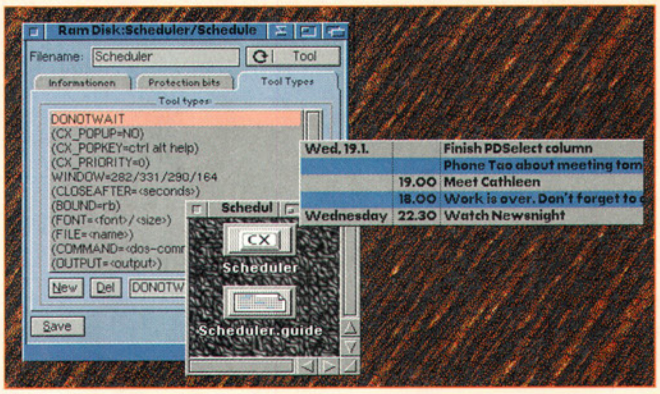
The question, though, is whether it is worth effort of installing MMULib on your system. Okay, it is a clever piece of programming, but what does it actually do? Well, not much at the moment. All its effects will occur under the bonnet so to speak. MMULib can give your Amiga a performance boost and increase stability, but it'll take some experimentation. This could well be enough to sell you on the package. There is also the promise of system-legal virtual memory in the future. I think that Haage and Partner should take a good look at MMULib with a view to making it an official part of AmigaOS.

BY: Thomas Richter
WARE: Freeware
FROM AMINET: util/libs/MMULib.lha
SIZE: 621K
REQUIRES: 68020+ processor with MMU

Scheduler 1.4

Computers are all very well for organising data, but how good are they at organising your life? If you are anything like me and spend significant most days stuck in front of a monitor, you are apt to have a fairly nebulous concept of time.

Wouldn't it be handy, then, if your computer could remind you of events happening in the real world? Well, that's just what Scheduler tries to do.



If you're one of those people who tend to lose track of time while you're working, let Scheduler remind you of those important engagements.

Put simply, Scheduler is a commodity which displays and continually updates a schedule you supply it. This could include things like deadlines for work, doctor's appointments, friend's birthdays or even a reminder to watch your favourite TV programme.

A schedule is a plain text file created with any old text editor. Each line is an event in your schedule. Events can be specific and occur at a particular date and time or more general, applying to a whole day. Assigning an event to a particular day rather than a date means that event re-occurs that day every week. You can also tell the program to remind you a user definable amount of time before the event happens.

The format of the schedule text file is fairly straightforward. The size and position of the window that Scheduler pops up to remind you of events is just a simple text list and is configurable both in size and position.

Unfortunately, the sorting that scheduler applies to this list is not particularly intelligent. Being a commodity, you can show and hide Scheduler's window as hotkeys as you please.

Scheduler is basic but it does its job. A GUI for creating your schedule and more flexibility on defining events would be nice, though.

Also, the author should finish localising the program. Currently its menus are all in German.

BY: Axel D`rfler
WARE: Freeware
FROM AMINET: util/wb/wbinfo29b.lha
SIZE: 21K

Continued overleaf ➡

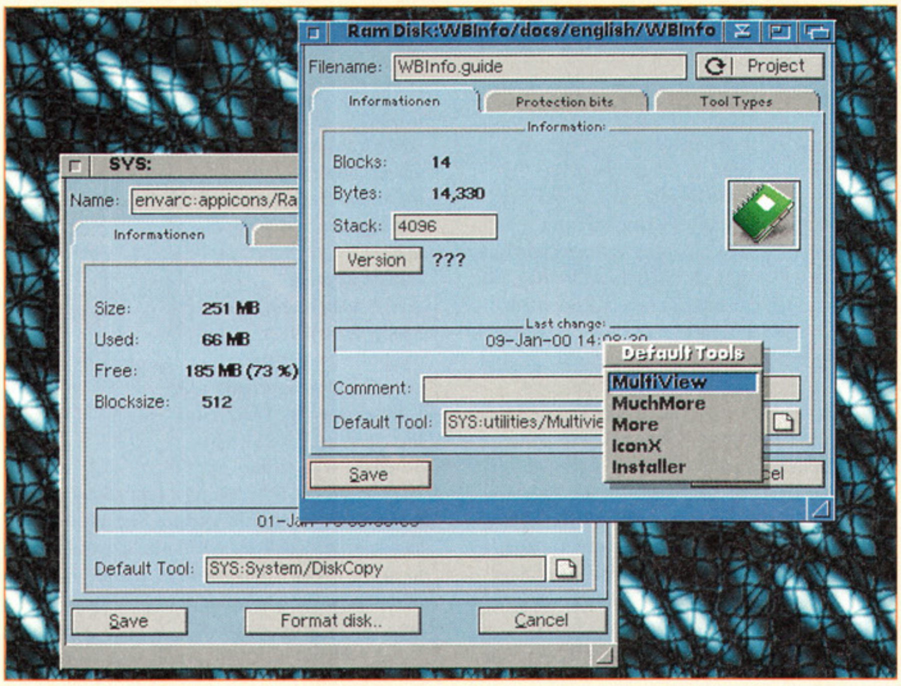
WBInfo 29b

WBInfo is, unsurprisingly, a replacement for the standard WB Icon Information requester. It also performs the same role as a plug-in module for *Scalos*. Scripts are provided to install it for either purpose.

***WBInfo* offers much improvement; it has a neater, more logical layout – thanks to MUI and the window being divided into pages. It is more context-sensitive to object type. Disk icons get a page informing you of the device driver and the file system used for that disk and a button to launch the standard format command. Project and Tool icons have a version button to query the revision strings embedded in their corresponding file. Drawer icons have a function to find the true amount of disk space taken up by the contents of the drawer.**

Any object can be renamed simply with *WBInfo* by typing a new name in the string requester at the top of the window. Icon type can be changed with the cycle gadget at the top right. *WBInfo* also maintains a list of common default tools, configurable from *WBInfo*'s startup arguments. You no longer need to keep typing in *'Multiview'* or *'Installer'*; just hold down the right mouse button over the default tool gadget and choose the tool you desire from the pop-up menu.

***NewIcon* imagery is displayed correctly. With Stephan Rupprecht's *NewIconEmu* package it even works with OS3.5 style Color Icons. The new functionality of the OS3.5 Icon Information requester is not replicated though – such as the Start from WB, CLI or ARexx option or the extra options for commodities. The authors say they are working on a new version for OS3.5. In my opinion, they will have to go a long way to beat Stephan's *RAWBInfo*. Version 1.8 of this has just been uploaded to the Aminet and it has loads of handy new features.**



If Workbench isn't giving you enough information then try WBInfo instead.

BY: Eric Hambuch and Ulrich Hambuch
WARE: Freeware
FROM AMINET: util/wb/wbinfo29b.lha
SIZE: 52K
REQUIRES: MUI

PFS3ud V1.5

One of the many advantages of the alternative filesystem PFS of the standard FFS is that it makes easy to recover any files that you delete by accident.

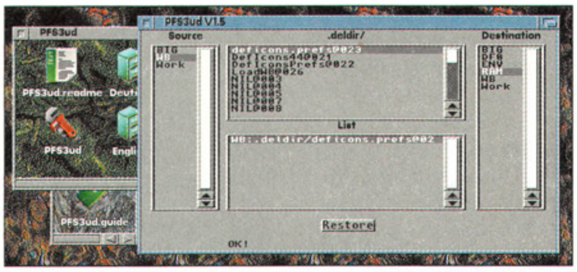
When you delete a file on a PFS volume, it gets moved to a special, hidden directory called .deldir on that same volume. If you later decide that you really didn't want to bin that file you can fish it out by copying it back to some place on your hard drive. The only difficulty is that you have to do this copying via the shell since the .deldir directory will not appear to file managers such Workbench or DOpus.

PFS3ud is a little tool to take the chore out of all this mucking around. It provides a GUI which lists all your PFS volumes; selecting a volume displays the contents of the .deldir on that volume. You can select which files you want, select a destination directory and hit a button to copy the files.

This is much easier than having to fiddle about with the command line. And although this tool is called PFS3ud it actually works fine on PFS2 volumes as well.

This program does its job adequately. It could do with a GUI overhaul, though – it currently has a GadTools interface which is as ugly as sin. A MUI-based interface would be so much easier to use.

You could then perform drag'n'drop operations between the .deldir listview and the listview which contains the files you want to rescue. But, as it stands, it is still quick to use.



Recover those accidentally deleted files with ease and PFS3ud.

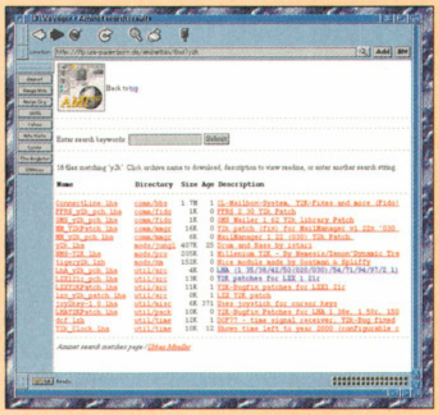
Richard Drummond

BY: Rolf Kleiber
WARE: Freeware
FROM AMINET: disk/misc/PFS3ud.lha
SIZE: 115K
REQUIRES: PFS2 or PFS3

BEATING THE BUG

The Amiga is Y2K compliant, right? It always has been. Well, whereas the operating system does not have problems with the year 2000, some other software might. If programs store dates using OS structures and use OS functions for date manipulation, then they should work just fine. On the other hand, if a program does its own parsing of dates or uses some custom format for storing dates, there could be problems.

Since the temporal singularity occurred at the beginning of this new year, Y2K problems have been identified with several packages. Fixes for some have already been uploaded to the Aminet and other Amiga corners of cyberspace. First off, the archivers LZX and LhA are affected by the Millennium Bug. Download the patches from the Aminet at util/arc/LZX121r_pch.lha and util/arc/LhA_y2k_pch.lha. Email clients seem to be another major group of software suffering from millennial sickness. Patches for *GMS Mailer* and *Mail Manager* are available from the Aminet. Users of the NetConnect2 release of MicroDot II may also be experiencing Y2k problems such as outgoing emails dated in the year 100. VaporWare have created a special release of *MDII* version 1.4.4 for NC2 users which will cure this. Get the update from Vapor's website at http://www.vapor.com/. *NetConnect3* owners will be pleased to know that the bug does not apply to them anyway.



A host of Y2K patches are available on Aminet.

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PageStream 4

Amiga Format examines the King's of the Hill's heir PageStream IV and finds him healthy.

There's a strange sense of anticipation in the air at Format towers. While we're busy reviewing the packages we've got right now, we do have half an eye on the doormat to check for new parcels coming through the door.

We're expecting programs like *FusionPPC*, to be swiftly followed by *PCx PPC*; hardware like the BoXeR (it's now got twin USB ports, PCI and SD-RAM – excited again now?), Met@box's AmiJoe G3 accelerator, Power's Punchinello 2, Alien Design's Repluse sound card and slightly less concretely, phase 5's G4-based accelerators, Escena's G3 card, DCE's top-secret graphics card, and to top it all off, we were discussing the arrival of a development box for the new Amiga/Tao collaboration, which, remarkably, Bill, Fleecy et al. are planning for release not long after you'll be reading this.

In a way, it's actually sad that we can only think of one or two major software titles we're anticipating. There really ought to be programs in development to take advantage of all this great new hardware, but at least hardware doesn't get pirated...

Ben Vost

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Simon Goodwin returns to the Power Flyer for a final verdict on the IDE expander.

PageStream has long been "King of the Hill", a statement made by the now defunct Amiga World magazine in the US some time back (1992, I think) when they compared *PageStream 2.2*, *ProPage 2* and *Stylus' DTP-program-I-can't-remember-the-name-of-right-now* – a program not often seen over here in the UK.

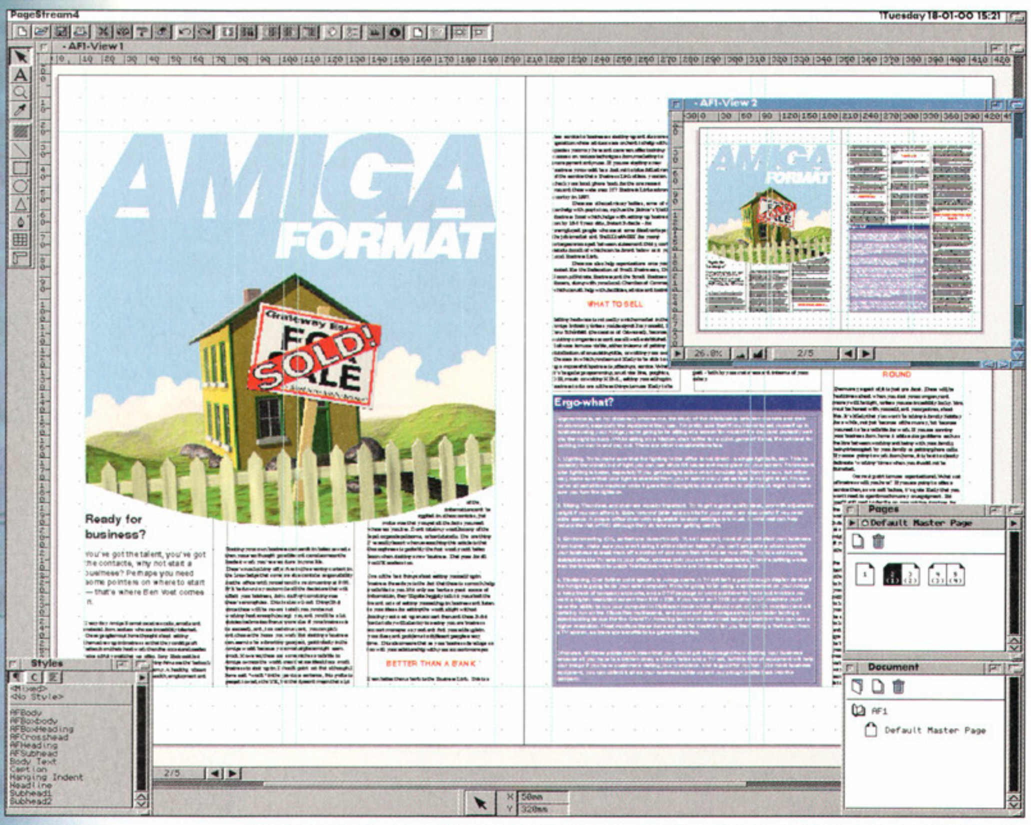
However, in order to retain that status, *PageStream* now has a much harder fight on its hands, seeking as it is to enter a broader market – one that encompasses PCs and Macs with their own entrenched DTP packages. Worst of all, it now needs to compete with the daddy of them all – *Quark XPress*, the DTP package that the whole of the printing world seems to use. *Amiga Format* is laid out with it, on very fast Macs, which is what enables us to get thirteen issues a year out to you guys. But why would anyone want to change from *Quark*? *PageStream* obviously scores big on price. Although £170 might seem a lot to an Amiga user, it's nothing compared to the £856 that you'd have to pay for *Quark* – though it's a lot closer to the £235 you'd expect to fork out for Adobe's new pretender *InDesign*.

But hey, PageStream doesn't have half the functionality of those heavyweights, does it? Well, yes it does and no, it doesn't

SWITCHING MODES

But hey, *PageStream* doesn't have half the functionality of those heavyweights, does it? Well, yes, it does and no, it doesn't. On some features *PageStream* beats its competition hands down. Things like magnification, and the resolution at which you can work with measurements are a great boon for accuracy.

But the problem with *PageStream* is, and always has been, that you are forced to switch modes too often: make a text box with the column tool; switch to text mode to click in the column to type some text; discover you need to change the size of the text box, so switch to the pointer tool to resize the column; switch back to text



The ultimate test: could we produce 13 issues a year of Amiga Format on PageStream? Well, yes, we probably could, but there are reasons why we choose not to.

PLUS POINTS AND MINUS MARKERS

− ROTATE
Rotation of any objects is performed anti-clockwise rather than clockwise, which is a bit difficult to get used to.

− PASTEBOARD
Taking drawings or groups off the page and onto the pasteboard and trying to dissolve/ungroup them results in items you can't select. If you then change pages, when you return the items will no longer be there.

+ PRO: MOVING AROUND
Holding down the middle mouse button (if you have one and you aren't using it to switch screens) allows you to move the page you are working on around. Very useful if you are at high magnification and don't want to have to zoom out.

− ASSIGNS
There are far too many assigns for *PageStream 4*. In addition to one for *PageStream* itself, there are assigns for *SoftLogik:*, *PageStream4:* and bizarrely, also *PageStream3:*. Not only that, but *PageStream*'s fonts directory has to be added to your Fonts: assign.

+ MASKING
PageStream's masking facility is truly superb. You can have your pictures appearing in all sorts of weird and wonderful shapes, which means that you can get really creative with them.

− COLOUR PALETTES
PageStream works in percentages for its colours. This is sensible for CMYK, but perhaps less so for RGB. Only ImageFX offers percentage CMYK (as far as I've found). Even BME, the simple editor that ships with *PageStream* offers CMYK as 0-255 values, making it hard to match colours precisely.

+ SCRIPT RECORDING
Perhaps not as useful as script recording in a graphics package where you can guarantee you'll have to perform the same operation more than once, still script recording in *PageStream* is a great addition, and something that other high-end DTP packages lack.

+ MAGNIFICATION
It shouldn't come as any great surprise to *PageStream* owners who've been used to the possibility for massive magnification ever since *PageStream 2*, but users of other DTP packages gasp when they hear that *PageStream* is capable of showing a magnification of 3000% compared to their paltry 400%.

− MOVING OBJECTS
One very nice feature of *Quark* is the ability to move things between pages by dragging them through on the pasteboard. *PageStream* treats every page as a complete separate entity so that although the pasteboard is visible (and contains whatever you left on it from whichever page) you cannot scroll past the beginnings or endings of a page.

+ MULTIPLE VIEWS
PageStream's ability to have multiple views of the same document is something of a boon when you're trying to make things fit. You can have the first and last page of your treatise open and discover if changing from Times to Triumvirate for the body copy will make any difference to the length of your text.

− IMPORTING AND EXPORTING
PageStream doesn't seem able to import and export pictures and text very successfully. Sometimes it crashes out completely and with EPS images, you'll need to save out of your drawing package as *Illustrator 88* so you can import as "EPS Illustrator", but you need to ungroup and convert to paths if you have compound objects in the EPS to be able to see them.

Also, you can't change the EPS' colour easily (again, conversion to single objects has to be done first). Text files can't be exported if you include layout codes for *PageStream* or *PageMaker*.

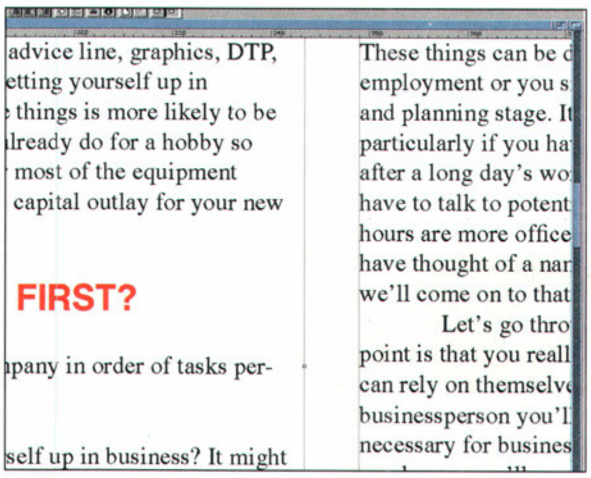
− AMERICANISATION
There's no localisation for British English, only American English.

mode, click in the text box you made and carry on typing. Compare this with the streamlined *Quark*: switch to text box mode to create a column; once done, the pointer switches to text mode with the cursor in the box you've just made; notice that the box isn't the right shape, so resize it with the text pointer and then carry on typing. It may not matter much if you are only producing a two-page newsletter once a month, but the time taken by these things soon mounts up.

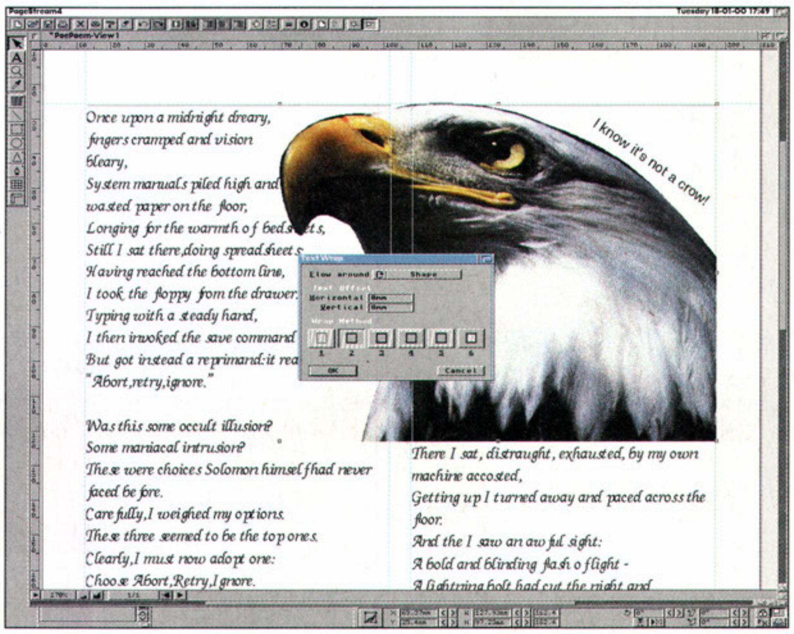
It doesn't help that the Amiga isn't the world's fastest machine. My first request for improvement to *PageStream* would have to be more streamlining of the features that it does have – things like offering the most sensible requester on a double click, rather than simply the line/fill tool (or whichever global default you choose in the preferences), and that creating a text box should switch you into text mode automatically and insert the cursor into a newly-created text box, and so on. Of course, the enterprising *PageStream* user can achieve some of these things for himself, using *PageStream*'s other secret weapon, its excellent ARexx port.

So could we produce *Amiga Format* on *PageStream* instead of *Quark*? Well, other than the speed issue (although *PageStream* on my 060 machine is noticeably faster at moving a page around, or zooming in than

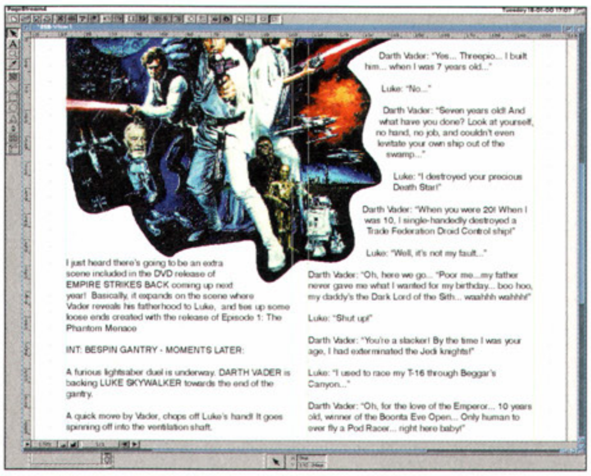
Continued overleaf ➡



One of the reasons we don't use PageStream to make AF: the text doesn't line up right. Our paymasters would become cross.



PageStream's image masking facility can result in some very interesting results, however, the runaround isn't always perfect – look at the sixth line of the poem.



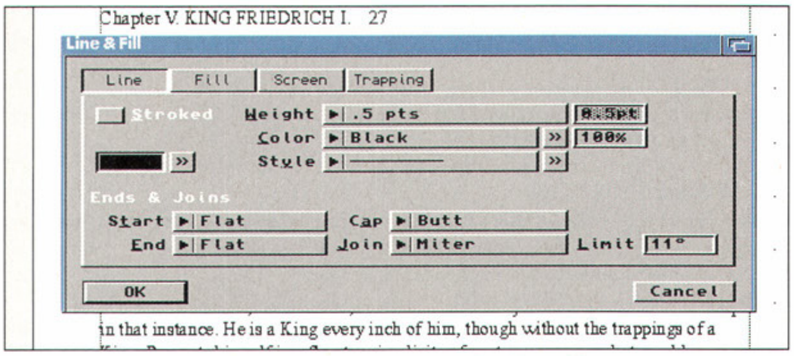
Again, the masking in PageStream comes into play.

XPress on a G3 Mac), and the cost and scarcity of beefed-up Amigas, we probably could, but there are plenty of niggles – like the difficulty of setting a baseline grid in *PageStream* which means that columns of text wouldn't be aligned with one another if you have elements in one column that aren't in the other.

IMAGE CONVERSION

The really serious problem, however, is that although *PageStream* handles RGB images with aplomb, its conversion of these images to CMYK for professional printing is very poor. Unfortunately there aren't really any tools to work in CMYK successfully on the Amiga right now. For home use, this is no problem, but printing to plates or PDF for mass duplication results in muddy and rather flat colours.

However, in the main, *PageStream* is a very capable DTP program that offers many more features than programs costing twice as much on other platforms.



The Line and Fill requester is one you'll become very familiar with.

Of course, it's now the only one of its kind on the Amiga, so it has no competition, but since the three versions – Mac, Windows and Amiga – are all being developed side by side, from the same source code, it means that as *PageStream* tries to compete on the Mac or PC, we, the users, benefit.

As an example of *PageStream*'s prowess, take the way it handles documents. Now, not only can you beaver away as you choose on page after page, but you can also arrange these pages into chapters for your delectation. This makes it much easier to organise your document and means that each chapter of your opus is merely a double click away in the documents palette. Mind you, I'd have to say that I would be wary of making very long documents in any DTP package, let alone *PageStream*. What if you were to corrupt the file you were working on? All that work would be gone to waste.

It is my firm belief that it would be better to make a template and work from that on several documents to ensure that you end up with the same page layout throughout your work. This is where style



Compared to the paltry 400% magnification that Quark can achieve, PageStream's max. of 3000% is great!

sheets also come in handy, and *PageStream*'s are hard to find fault with (though it would be nice to be able to specify only having a drop cap on the first paragraph in an article – perhaps you can and it's one of the many options in the style requester and I just missed it.) The Styles palette should become pretty familiar to you, as should the line/fill requester, since they are both used frequently for a multitude of purposes.

THAT TOOLBOX IN FULL...

1 The null pointer has a pop-up that will allow you to select the object re-shape, crop, rotate or lasso pointers.

2 The fairly obvious text pointer button.

3 The magnifying pointer. Hold down shift and you'll zoom out.

4 The eyedropper pointer allows you to select attributes, colours and so on.

5 The column pointer allows you to make text boxes with varying numbers of columns or post-its.

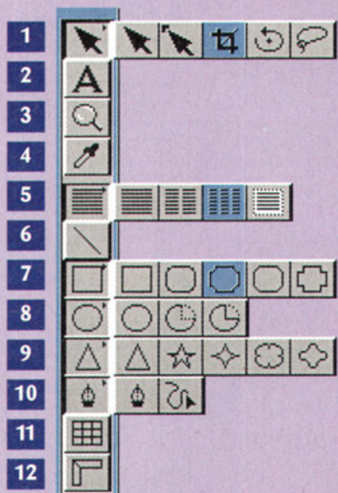
6 The vector tool for making straight lines.

7 The box tool can give you scallop-edged boxes of various styles.

8 The ellipse tool can also be used for making arcs, or pie chart segments.

9 The polygon tool can give you varying styles of regular shapes.

10 The draw tool can either be used to create bézier splines or draw freehand (your freehand sketch is turned into a spline-based line).



11 The grid tool makes rectangles with a four-by-four grid. Not very useful, it seems.

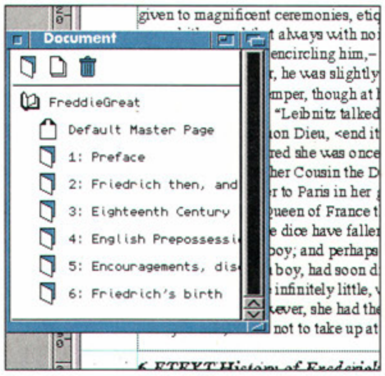
12 This tool is used for making borders and isn't described in the documentation.

COMPETITIVE ARENA

I seem to have something of a bad attitude towards *PageStream*. This isn't just because not all its promised features actually work as intended, like the PDF or HTML export. Some of the filters seem a little dodgy too, but it's not that either. The reason I'm being harsher on *PageStream* than I might



The online help is SoftLogik's bizarre HTML browser, with Mac images.



Dividing a large document into chapters makes it very easy to navigate.

TOP TIPS

When you first get started with *PageStream* there are probably a few things you ought to know about in the preferences and system preferences.

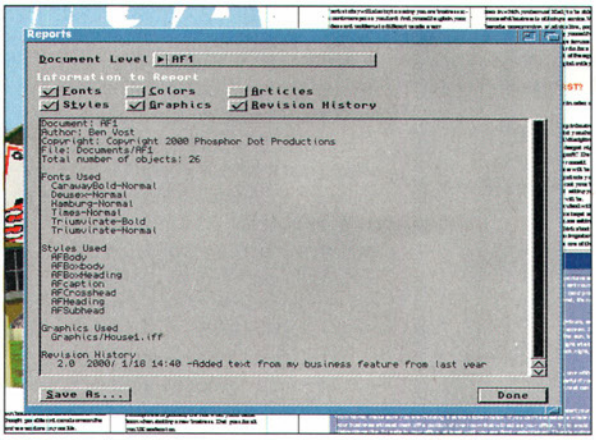
1. The screen DPI should be set for both *PageStream* and the HHV help system, otherwise everything looks very odd. For a 1024x768 screen I use 72x72.

Remember that while a graphics card outputs square pixels, native AGA pixels aren't square, which means that you'll need to check both the horizontal and vertical rulers in *PageStream* against a real ruler to get at least a rough idea.

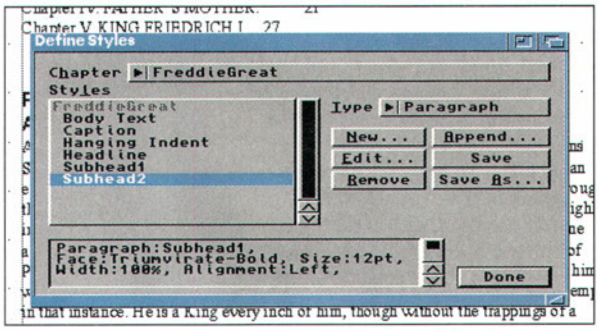
2. The nudge setting in the preferences is a bit large. This allows you to select an object with the pointer tool and then move it about using the cursor keys on your keyboard. I have mine set to 1mm.

3. Turn on "drag from corner" for the magnification tool to make selecting areas of the page easier.

4. If you have the room, put often-used menu items like "snap to grid" and "snap to guides" in the toolbar. Alternatively, learn the many keyboard shortcuts that *PageStream* provides.



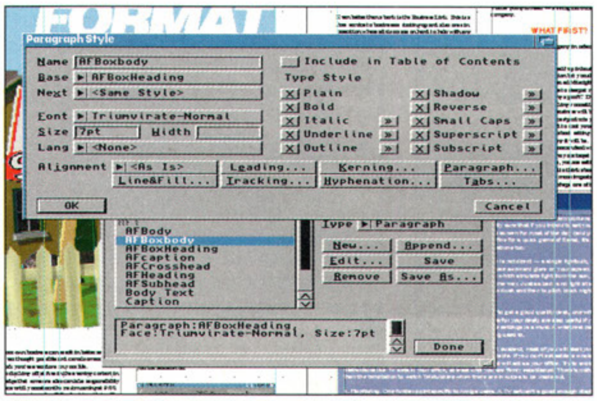
The revision history of a document makes it very easy to see what fonts, images and spot colours have been used.



Styles can be defined on the fly while working with a document, or beforehand. Usually you'll end up with a mix of the two.

otherwise be is that the arena it's trying to compete in is much tougher than before, and it would be wrong to believe that the SoftLogik team can rest on their laurels – they can't.

Even so, *PageStream* is a phenomenal piece of software. Although the slight instability of it is somewhat worrying, it's only the second revision and everyone knows how long it took *PageStream 3.0* to get truly stable. Besides which, *PageStream 4* has the ability to make both backup documents and auto-save, and with its revision history facility (and much better documentation of exactly what you have in a document, so to speak) it means that you can be confident of which version of a document you are working on, and that you won't suddenly exclaim in dismay that you don't have all the fonts, images and clipart you need to work on it. In fact, *PageStream 4* has a sensible feature called "Collect for Output". This lets you save your document and puts all the pictures you'll need with it (all the ones you've chosen to leave external – wisely, *PageStream* doesn't package up your fonts for giving to someone else). This kind of attention to detail means that now, more than ever, *PageStream* is a great package.



PageStream's style sheets are incredibly powerful and offer many useful options.

PRINTING

Printing is probably the most important aspect of any desktop publishing program and *PageStream 4* doesn't let you down. The printing isn't faster than normal on either my PostScript laser or my Epson Stylus, but the quality is very good.

However, if you choose to use a preference printer, whether you have *TurboPrint* installed or not, it seems that *PageStream 4* still only outputs a lower grade of colour than *TurboPrint*'s own Graphic Publisher can manage, presumably a throw-back to the pre-3.5 printer.device only being able to handle 12-bit colour at maximum. It's a shame that in an attempt to give the best possible output, *PageStream* does its own degrading of image quality, rather than trusting to printer.device, but it's certainly understandable.

However, *PostScript* printing is better than ever, with superb results even for rotated elements (something that *PageStream* always used to have problems with in the past. You can also now get *PageStream* to print multiple copies of a document on a single page, something that should come in useful for printing labels, business cards and so on.

To test *PageStream*'s lino output I put the *AF*1 spread through Future's lino machines. They gave me the Adobe Distiller PPD which prepares the document for conversion to PDF which we now use for nearly all our printing. The PDF document was then passed to our Linotron and also our chromalin printer so I could get a good idea of PageStream's colour performance which wasn't great.

I look forward to getting my upgrades to this version more than I did for the original *PageStream 3*, since you never knew if you'd be taking a step forward or backward with what was essentially brand-new code. But *PageStream* has had time to mature in its new guise and I would recommend *PageStream 4* to anyone.

You can't buy a better DTP package for your money.

Ben Vost

SUPPLIER: Blittersoft
Web: http://www.blittersoft.com
TEL. 01908 610170
PRICE: £169.95 UPGRADE: £59.95
REQUIREMENTS: CD-ROM drive, fast processor, lots of RAM

Pros and Cons

- Slightly unstable
- + Very comprehensive
- + Excellent file format handling
- + Style Sheets

OVERALL VERDICT:
A brilliant bit of DTP software that could still be improved, especially for professional print.

86%

Voyager3

On the CD -Serious-/-Commercial-/-Voyager3_30a

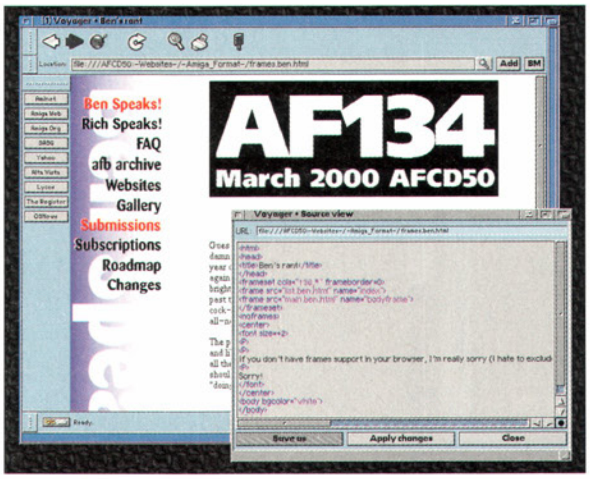
The latest version of the web browser that dares to challenge the big boys' duopoly

Amiga users had an eventful time this Christmas. The first service pack for OS3.5 – the cutely-named Boing Bag – arrived; Amiga, Inc. was rescued from the evil clutches of Gateway; and, after months of beta and pre-release versions, Voyager3 finally made it to a full release.

Actually, the pre-release versions of V3 were becoming increasingly usable. Okay, so the first version crashed every time you blinked, but by pre-release 5, most of the bugs had been ironed out. V3.30a, the first release deemed stable enough to lose the beta tag, is rock steady. I have been using it now for almost a month, and for day-to-day web browsing it has proven very reliable.

Voyager3 boasts improvements and new features over its 2.x predecessors, the major one being support for Javascript (JS) – one of the many supplements grafted on to HTML to make web content more dynamic. According to the blurb, V3 has "a nifty just-in-time bytecode compiler for maximum efficiency on our dusty 680x0 class machines". It's near impossible for the end user to do any serious benchmarking, but V3's JS handling does seem rather nippy. But how about accuracy? Well, it has problems with some JS pages but is better than the current release of iBrowse2 and roughly on a par with AWeb. If you turn off V3's reporting of errors in JS parsing, then it copes adequately with most sites I've tried. Another addition to V3 is the inclusion of a plug-in Shockwave player. This handles Macromedia's format for 2D animations. Again, it is competent but not perfect. More interesting is the fact that the API for plug-ins modules has been overhauled to let MIME-typed objects be embedded in pages.

> *A poll is being conducted on the new V3 portal site to see what plug-ins people want. Contenders include RealAudio, QuickTime and PDF*



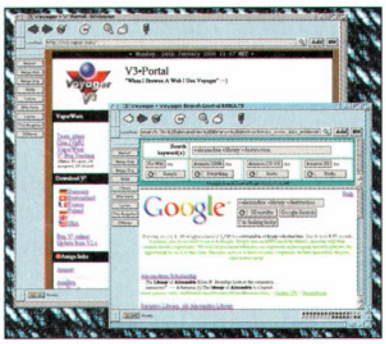
There are still improvements that could be made but V3 is now a highly capable browser.

The flash player is merely the first. A poll is being conducted on the new V3 portal site at http://v3.vapor.com to see what plug-ins people want. Contenders include RealAudio, Quicktime and, my nominee, PDF.

ALL CHANGE

The JS and flash support are all very well, but what's best thing about V3 are the many little changes that make browsing more comfortable. The GUI has been improved with a more logical layout of menus and preferences pages. The toolbar has been dramatically altered, now supporting the slick but impractical tear-off panels. Custom buttons can also be added to launch your own ARexx or JS programs.

An off-line browsing mode has been included and local browsing is now much better (you can now drag'n'drop files from the Workbench, for instance). The performance of page layout has been boosted so it no longer takes an eternity to show pages with nested tables.



Voyager's new portal site and search central plug-in.

Voyager3 is impressive, but there is still much work to do. For example, you still find the odd page whose table layout still gets mangled; I couldn't get the automatic switching between online and offline with my TCP stack to work; and exporting text is hit-and-miss. The print function is so badly broken that it's virtually unusable, and the option which allows you to save HTML pages as plain text does incredibly poor formatting. Another major deficit is the documentation, which has not been updated since September and hence has not kept up with recent changes. It provides a good guide for the beginner but doesn't give the expert enough information to gain control of V's more powerful features or allow complete configuration. No mention is made of what Tool Types or environment variables V looks for on startup nor what ARexx commands it understands.

Voyager has always been my browser of choice for the Amiga and V3 reinforces this opinion. It has its faults but, annoying as these are, they are bearable. Voyager3 is simply the best browser for our platform. In fact, I would go as far to say that I much prefer using Voyager3 than Internet Explorer or Netscape on other operating systems.

Richard Drummond

NEW SINCE V2

Javascript 1.3 support; Improved GUI with tear-off panels; Faster page layout; New plug-in API; Flash player plug-in; Search Central plug-in; HTTP Resume support; Improved SLL support (128-bit encryption); Bookmarking via Contact Manager; Cookie browser; Password manager; Offline browsing; Internal HTML editor.

DEVELOPER: Vaporware
http://www.vapor.com
PRICE: £25
REQUIREMENTS: Minimum: 2MB RAM, ECS, MUI. Recommended: 68020+, 4MB+ RAM and AGA or Graphics card.

Pros and Cons

- \+ Comfortable browsing environment.
- \+ Improved layout engine.
- \+ Competent Javascript support.
- − Documentation lacks detail.

OVERALL VERDICT: The king of Amiga web browsers but still falls short of perfection.

88%

Avery CD Presenter Kit

On the CD -In_the_Mag-/CD_Labels

Making your own CDs is one thing – many Amiga users now have CD-Rs – but how do you make professional-looking discs? Avery may have the answer

Creating your own CDs is great. The power to make something that data-rich – whether it's your own tunes, or a compilation of your favourite software for backup purposes – is something truly fantastic. However, it's always a letdown to have to hand-write a title onto the disc, and also probably onto the coversheet that sits in the front of the case.

For those special discs – a mammoth Scala script that you've created for a client, a birthday present of music you've written, or even your own software that you want to sell – it's best to actually have something that looks a little more professional.

Although several companies create CD label "stampers" that allow you to have printed labels on the CDs themselves, I personally hadn't come across a decent set of die-cut labels for the CD boxes, for the back and front of a CD case, until now.

Avery is a name that should be very familiar to label users; I can still remember feeding large rolls of Avery address labels into an old daisywheel printer for a mailmerge back at the beginning of the '80s (twenty years ago! – doesn't time fly when you're having fun?) but they've been going much longer than that.

Avery is a name that will be familiar to anyone who has ever had to print out reams of address labels.

The day has long gone when a company could just make address labels, but Avery has come up with some goodies in the past

They've had to diversify; the day has long gone when a company could just make address labels, but Avery has come up with some goodies in the past, such as their videocassette labels and others of the same stripe. But none of what they do now would be of much use without a decent printer, so it is fortunate that printer development has nearly matched the pace of computer development; you can now get a pretty professional printing set-up for less than £200, where once you'd have had to pay thousands of pounds to get the kind of quality we take for granted from the Epson printer reviewed on these pages.



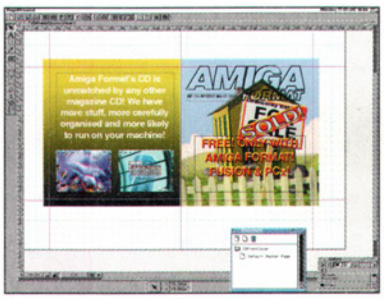
But what kind of quality are the labels produced by this bundle of pages? Well, in the main, pretty good. The *Presenter Kit* has labels for use in a laser printer (only the CD label itself in permanent and removable versions) and an inkjet, and although you'll almost certainly want to just buy the labels for one or the other, it gives you the chance to test both out.

The paper's not good enough quality to support 1440 dpi printing on my Epson Stylus Photo 700, but it is thick enough to work as a CD cover. Both the "cover" sheets (for the front and the back/inside) are coated on both sides, so if you want colour printing inside and out, the paper will stand it with no bleeding through.

The only slight bugbear is the on-body label; this is adhesive backed, so you can easily stick it on your CD, but although the gushy packaging suggests that you'll get perfect positioning every time, the truth of the matter is that it's still a fairly hit and miss process.

The problem is that misalignment of the label can cause some CD players and CD-ROM drives to throw a wobbly (quide liderally, folks!) because of the eccentricity of the spin of the disc with the added weight of an off-centre label. But the guides are a good idea and with a bit of practice you should find yourself positioning with ease and aplomb – just don't expect to get perfect results the first time you print.

The last addition is the card sleeve like you so often get throwaway CDs in. You can print to this like any other bit of paper, but the card is thicker than the front cover piece, ensuring that the sleeve is sturdy enough to look after your disc. Of course, unless you buy CD-Rs in bulk, you are likely to get them in proper jewel cases anyway, so you may never use the sleeves, but it's a thoughtful addition nonetheless.



You can now get a pretty professional printing set up for under £200.

Ben Vost

PRICING DETAILS

The *CD Presenter Kit* has three sheets of each of the separate labels and the individual packs all contain 25 sheets – that means you can make 50 back covers or CD labels.

CD Presenter Kit (S1600)	£19.99
Front covers (J8431)	£15.49
Back covers (J8432)	£15.49
CD sleeve (J8433)	£15.49
CD labels (J8760)	£21.99
Laser CD labels (L7660)	£19.99
Removable Laser CD labels (L7660REV)	£19.99

SUPPLIER: Avery Labels (for stockists ring 0800 805020
http://www.avery.co.uk
PRICE: See "Pricing Details"

Pros and Cons

- + Good quality paper
- − Dodgy CD label positioning
- + Available everywhere
- + Sheets available separately

OVERALL VERDICT:
It's hard to think of a better way to position CD labels, but it needs to be done.

84%

Eyetech infrared EZLink

Eyetech EZLink – cordless control to and from Amiga applications

Eyetech's EZLink is a little box that plugs into the joystick port on any Amiga with Workbench 2 or later. It can send and receive short messages carried on infrared beams, mimicking the remote control systems built into CD players, TVs and videos. The receiver means you can control the Amiga remotely, triggering Scala presentations without needing access to the keyboard, or playing modules through *DeliTracker* or *HippoPlayer* as easily as remote CD tracks, without leaning from your recliner.

EZLink also allows the Amiga to control a host of other devices, for home or office automation. You could command your CD player and DAT, DCC or MiniDisc to make a compilation tape of selected tracks. You could program your video from Internet listings, without having to worry about the vagaries of VideoPlus, automatically winding back and forth between memory points, selecting long or standard play, and so forth. You can combine these techniques, sending simple messages which the Amiga interprets and translates into control signals for several devices. For instance, you could use a remote-controlled light dimmer to adjust background illumination around a video presentation.

'Rough cut' video editing is feasible, but the lag in transmission and decoding of messages, and the slow response of domestic video recorders, means you'd be lucky to start, stop or change the mode of a home video player within a second of any chosen time. Genlock owners can hide these transitions by overlaying computer-generated graphics at changeovers. This is fine for multimedia slideshows with video inserts if you plan accordingly, but you'd struggle to synchronise this accurately with a soundtrack.

INFRAREXX

The key to all these functions is Leon Woestenberg's *InfraRexx* software, which is freely available on Aminet. Eyetech have licensed the InfraJoy transceiver design, formerly available direct from the developers. Aminet also has *IRmaster* and *IRslave*, shareware projects with similar aims, and Amiga veterans may recall CU's AIR Link covermount project.

Eyetech's ready made unit eliminates DIY hassle. They also sell mains light dimmers and compatible remote handsets, including the original Commodore CDTV controller – a hefty two-hand gadget with a console-style directional controller, numeric pad and transport controls.



EZLink supports lots of controllers, and has documentation on disk.

UNIVERSAL DIMMER

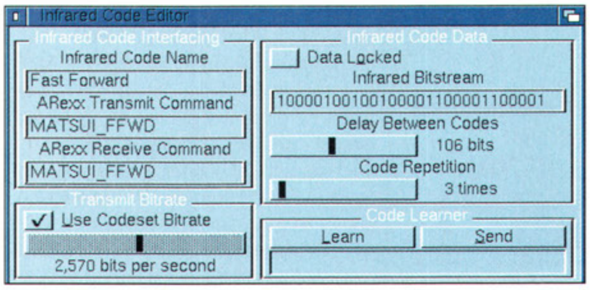
The 'VariLight universal dimmer' I tested was a bit too universal, and too dim, for my tastes, though it was briefly thrilling to dim and raise the lights smoothly under Amiga control. It didn't match the screw fixings of my original mains light switch or manual BS dimmer, and reacted to any infra red beam, regardless of code.

After three seconds of continuous stimulation the VariLight beeps. Then a short pulse switches it on or off, and a longer one changes the lighting, on a cycle that takes about ten seconds to rise then fall back to the original level. I used two bursts of 30 Matsui STOP codes to alternately dim and brighten my living room lights, but the thrill soon wore off.

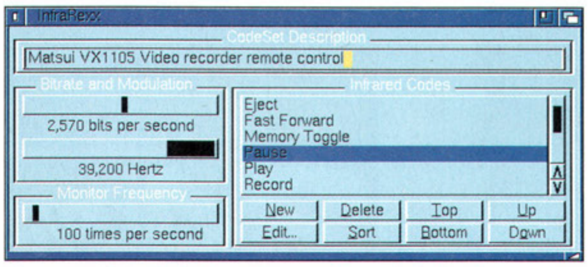
PROGRAMMING

As the name suggests, *InfraRexx* uses an ARexx port to communicate with Amiga applications. This means it's as powerful as your programs make it. *InfraRexx* can recognise and send commands that suit dozens of common devices, but it's up to you to program the connection between controller messages, Amiga applications, and remote devices.

You could link a modem to an ARexx



The Editor lets you learn, test and name infrared codes.



Simon taught EZLink about his Matsui VCR in half an hour.

INFRA RED HARDWARE

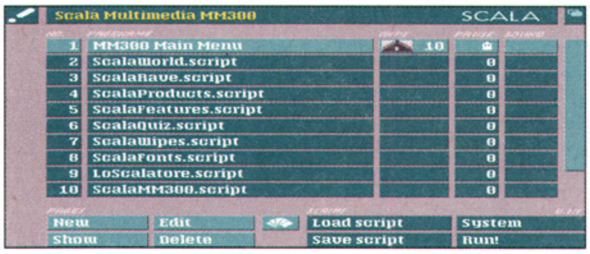
Infra red remote controls superimpose digital commands onto a train of pulses. The beam is just outside the visible spectrum, but has the same propagation characteristics as light - it is most reliable when there's a direct line of sight between transmitter and receiver, but can be reflected or transmitted through glass, at reduced intensity.

Twin transmitters and the Amiga power supply make EZLink more powerful than the average remote. Green and red lights on the top blink when data is received and transmitted.

The data is 'modulated' onto a relatively fast carrier signal, pulsing 30 or 40 thousand times per second. The exact frequency depends on the make of remote, and is chosen to reduce interference from other sources of intra red radiation, like lamps and the sun.

Depending on the frequency your equipment uses, you might find that the fast-flickering refresh from a multiscan monitor gives false signals. PAL and NTSC screen modes are unlikely to cause problems, but the lowest common frequency, 32 KHz, is close to the refresh rate of a scan-doubled monitor, and some graphics cards use rates up to 40 kHz or beyond. You might need to reposition your monitor or adjust the screen mode if the display is in line-of sight of the receiver.

The EZLink box comes on a metre of narrow ribbon cable; you could use a joystick extender if your monitor and computer are further apart and you want to put the sensor behind the display. The Aminet version had an optional joystick through-port, but Eyetech's design monopolises the second controller port.



Eyetech demo scripts support Scala and ToolManager.

port, and ARexx messages can be sent over Envoy, the fast Amiga networking protocol. This means that your applications don't even need to be on the machine that receives or sends the messages.

The software is clever and system-friendly. It ties up the machine momentarily when messages are sent and received, but multi-tasking continues. By default *InfraRexx* checks for incoming signals 100 times per second, but you can adjust this, trading CPU time for faster responses.

The Editor lets you tune EZLink into your own remote gadgets by setting up a 'codeset' – the properties of a particular interface. The most basic parameters are the modulation frequency and the rate at which data bits are superimposed onto this carrier.

THE EDITOR

Once you've got this right – which may be as simple as selecting the device from a list on-screen, or which may require experimentation if your device is obscure – you build up a list of command codes.

My cheap Matsui VCR was not on the supported list, so I took a wild guess at the rate and modulation, which worked at once – infra red links seem to be quite tolerant. I had no trouble teaching InfraRexx the codes, pressing each button in turn and assigning the sequence a name and ARexx command. This takes a while, but it's easy – after a while I didn't even bother to test each code by re-transmitting it from the Amiga, as they invariably worked first time. Each code relates a data sequence to a descriptive name like 'Video Play' or 'Amplifier Select Tuner'. Two more boxes let you assign ARexx commands to the sequence. One sets the name you use when you want to transmit that code, and the other holds the ARexx command, or command file name, which is triggered when the code is received.

> *You teach the software new codes by pointing the controller at the sensor on the front of the EZLink from about a metre away*

SUPPLIED CODESETS

Akai ■ Canon ■ CDTV ■ Hitachi ■ JVC ■ Kenwood ■ Onkyo ■ Panasonic ■ Pioneer ■ Reflex ■ Samsung ■ Teac ■ Technics ■ Yamaha

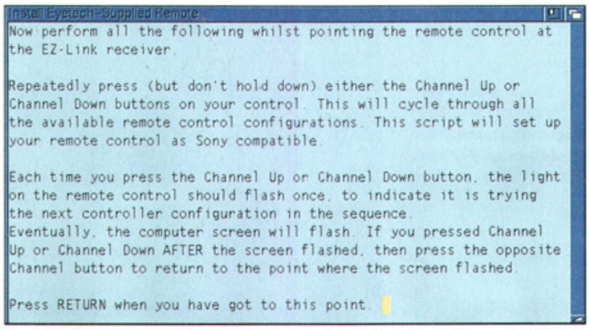
EZLink comes ready to work with these brands of controller

IRDA POTENTIAL

Some portable computers, cameras and other peripherals use infrared signals as a way of transferring bulk data dumps. The standard for this alternative to wired serial connection is known as IRDA. It might be useful to support that on the Amiga, but EZLink is not suitable for such bulk transfers.

InfraRexx is orientated around short control sequences. This makes sense, given the simple joystick port interface, when the Amiga is doing most of the sampling and timing work, but would be unwieldy for large data blocks. The overhead would tie up the computer, disrupting multitasking.

Eyetech reckon that the best way to handle IRDA would be to dedicate a small processor – perhaps one of Nick Veitch's favoured PIC chips – to bulk transfers, leaving the Amiga to get on with more interesting work. No such Amiga device exists, though Eyetech's Alan Redhouse is investigating the potential for such a product. EZLink focuses on command and control. It's not an alternative to parallel, serial, SCSI or USB connections but it's still very versatile.



A friendly script configures Eyetech's generic controller.

RAW DATA

The raw data appears as a binary sequence in another box. This may be useful when classifying sequences, ignoring obvious junk, like a long run of zeros or ones, and trying out codes which your controller might not implement but the device might still use. But it's generally best to leave the software to manage this. If the pattern was generated by receiving a genuine remote pulse, and works repeatedly, you need not know the exact sequence.

You teach the software new codes by pointing the controller at the sensor on the front of the EZLink from about a metre away, and pressing function buttons while the software is in 'Learn' mode. The Amiga waits up to five seconds for a valid sequence, and warns you if the signal was erratic or undetected. Once a code appears to have been correctly learned, you can send it immediately, to check that it has the desired effect.

Two more options let you trim the delay between codes – typically the same period as each sequence takes to transmit – and the number of times it is repeated for each transmission. To improve reliability, most codes are sent several times in quick succession, and the receiver ignores immediate duplicates. Three to five repetitions is usually enough to give good results, and the software automatically sets sensible defaults.

THE DAEMON

The Daemon is a 32K background task that checks for valid codes or requests to send infrared messages. It runs as a Workbench Commodity, so you can easily turn it on or off as you want.

Once a message is received and associated with a preset name, the Daemon looks for an ARexx script with that name and the extension .IRX in the REXX: directory, and runs it automatically. A default command or sequence can be triggered if unrecognised codes arrive.

The InputStream add-on converts ARexx messages into simulated keyboard or mouse actions, with window and screen selection to direct them to programs which lack ARexx ports but are otherwise system-friendly. TimeEvent can trigger ARexx commands – and hence EZLink messages – at set intervals, but requires a Cron program (not included) for synchronisation.

If you own infra red controllers, and you have time to play around, you could have a lot of fun with EZLink, impress people and do some neat things. Eyetech have combined a fine set of PD resources with their own hardware and setup files. InfraRexx is slick and reliable, and it gives the Amiga capabilities that other micros cannot rival.

Simon Goodwin

SUPPLIER: Eyetech
http://welcome.to/amiga.world
Tel: 01642 713 185
PRICE: £29.95 Adapter and transceiver box, £19.95 CDTV infra red controller, £19.95 300W VariLight IR dimmer, £9.95 Generic infra red handset, £9.95 Commodore ARexx manual

Pros and Cons

+ Integrates well with application ARexx ports.
+ Compatible with virtually all IR handsets.
- Needs custom programming to be useful.
- No support for IRDA data exchange.

OVERALL VERDICT:
Practical and fun, with much potential for imaginative uses.

81%

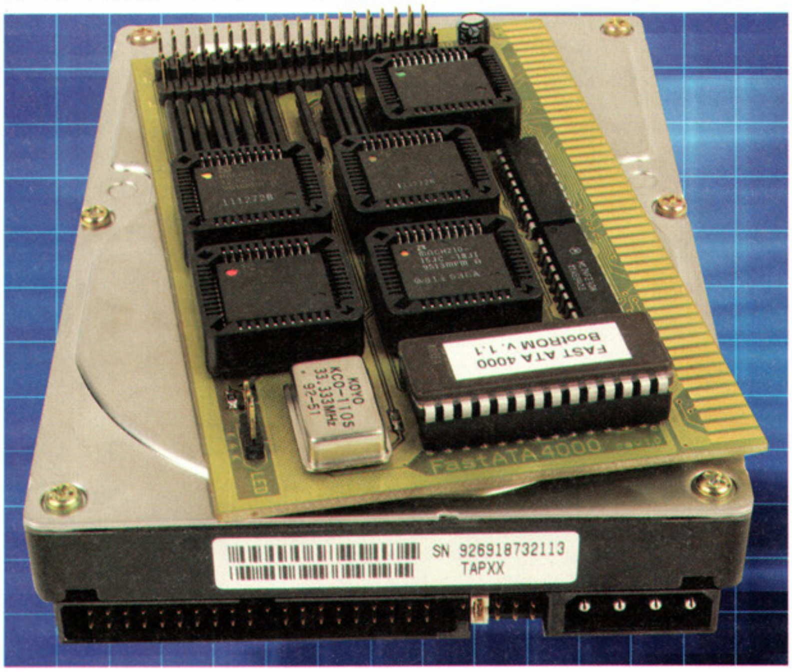
Power Flyer 4000

Is the Power Flyer 4000 the best drive controller for big-box Amigas?

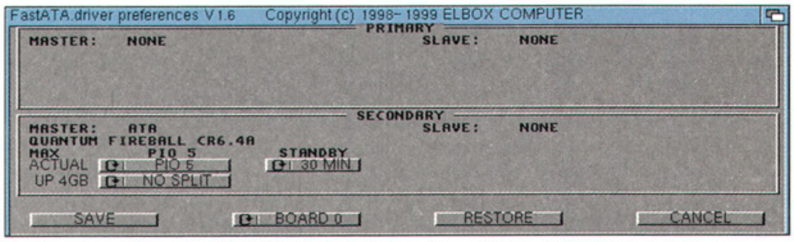
A couple of months ago we tested the long-awaited Power Flyer 4000, and found that it was not ready for review. Since then we've received half a dozen software updates, and a replacement for one of the Mach logic chips. The software changes are welcome, but the hardware change is the crucial one, because at last it writes reliably to our fast drives, making it fit for a full review.

To recap, the Flyer 4000 is a Zorro III version of the A1200 Power Flyer. It provides two 40 pin IDE 'Integrated Drive Electronics' interfaces, nominally to FastATA standards, each supporting master and slave drives. The Flyer can outrun Amiga motherboard IDE because it supports later 'PIO modes'. Modes 3 and 4 were designed for souped-up PCs, and most drives made in the last couple of years can cope with these rates, potentially up to five times faster than the original IDE. You can throttle the Flyer back to PIO Mode 0. It's rather slower than the motherboard port when set to this rate, and if your drives only support mode 0, 1 or 2, they might better use a cheaper Buddha or the built-in Commodore port. It's not wise to put a PIO mode 0 drive on a cable with faster ones, as it'll get in the way and slow things down.

> *The fixed version shifts a few hundred K per second less than the original, but that's an insignificant price for reliable writing*



The Power Flyer 4000 is the first Zorro III board from Elbox of Poland.



Version 1.6 of FlyerPrefs is tidier but still struggles with Workbench font preferences

PREFERENCES

Preferences allow you to select PIO mode 0, 3, 4 or 5 for each drive. Mode 5 is the fastest, but not yet ratified. If your drive is unreliable at this rate you may need to use a better or shorter 40 way IDE cable, or limit the mode with the GUI preferences.

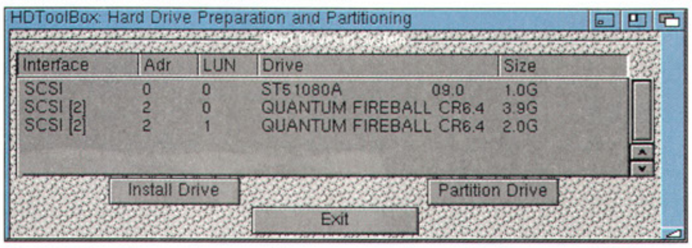
Elbox give you the option to 'split' large drives into sections within the Commodore limit of 2 G per partition and 4 G per drive. This means you can still use DiskSalv on big drives. Workbench 3.5 and NSDpatch support larger drives directly, and recent updates integrate the Flyer with this work.

I selected the NO SPLIT option then repartitioned and reformatted our Quantum Fireball 6G drive, to eliminate any errors left by the faulty chip. A full format took my Cyberstorm Mark 2 about 12 minutes on a 4114M Workbench 3.5 partition.

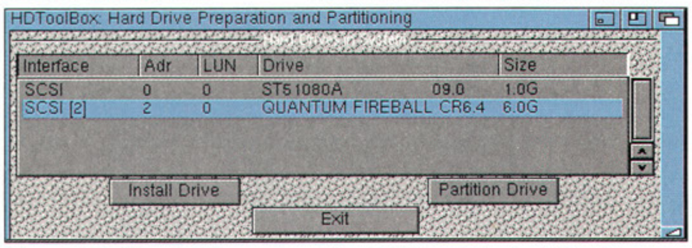
The RawSpeed tester reads 512K blocks sequentially at almost 8M/s with 100% CPU utilisation, compared with 3.4M/s and 3% CPU for CyberSCSI, on a smaller drive. The fixed version shifts a few hundred K per second less than the original, but you have to consider that to be an insignificant price for reliable writing.

The Flyer's ROM bootstrap code masquerades as scsi.device or 2nd.scsi.device, like Commodore's, but it is NSD (New Style Device) compliant, directly supporting larger drives. To make this work with Workbench 3.5 you must edit a hash character into the DEVS:nsdpatch.cfg file to stop the update 'fixing what ain't broke' (sic) and tack 'SKIPROMUPDATES scsi.device' onto the SetPatch line in your startup-sequence if you're no longer using motherboard IDE.

This is poorly explained in the seven page readme file, and ideally the installation script should do this for you. The installer adds a tiny startup patch to enable faster transfers, mountlists for ATAPI removable



The SPLIT option makes one drive appear as two units, for compatibility with disk tools and Commodore's file system.



The new Workbench 3.5 can cope with a 6G drive without splitting it up.

drives like ZIPs or LS120s, and the optimised AllegroCDFS, which requires Workbench 3 or later. Make sure you don't let it overwrite SCSI CD DOSdriver icons, if you have them.

You must reboot with the left mouse button held down before you can alter the configuration, for instance to change the PIO mode. This is tedious if Kickstart 3.1 is waiting for an absent motherboard drive, but you shouldn't need to do it often, once you've partitioned drives and configured a stable system.

Since the preview Elbox in Poland have tried to tidy their preferences GUI, which garbled all but the smallest Workbench fonts. Unfortunately their 'fix' forces the text into Topaz 8. This makes the display barely readable on a graphics card, and the cycle gadgets still look a mess.

LIMITATIONS

The Power Flyer 4000 now works, delivering impressive transfer rates. Its price is not much more than that of the A1200 version, which is great news for anyone who bought an A3000 or A4000 new, but this cuts both ways – it's considerably less refined than other Zorro III controller boards.

The Flyer 4000 ties up the processor during 32-bit Zorro III transfers. If you're used to a Fastlane, A4091, or processor-local SCSI from GVP or phase 5, the jerky, PC-like Flyer transfers will make your Amiga noticeably less responsive. To a certain extent this is a flaw of the IDE specification, where drives are relatively dumb compared with SCSI.

Flyer CPU-overhead may exceed the motherboard port's because it's capable of pushing the drives harder, strangling other programs. Elbox suggest that you run Executive, the Unix-like Amiga scheduler hack, to give some CPU time back to other programs – but this only splits the time between jobs, and may itself cause crashes

The Flyer offers big-box Amiga users cheapness, for the interface and drives, and speed, as long as you've nothing else to do while it's busy

if you're careless or unlucky configuring it.

Elbox don't implement 32-bit DMA, the advanced Zorro III feature that allows the rest of the computer to run almost unaffected while drives are busy. The good thing about their reading of the Zorro III specification is that the flyer works on any Zorro III system, from the oldest A3000 with prototype Buster, through the buggy early A4000s, to current Buster 11 systems

ELBOX DESIGN DECISIONS

With the interests of readers in mind, we asked Elbox to explain the thinking behind their chip upgrade and Zorro III design. They told us this: "Each and every device, before designing stage begins, has very specific assumptions defined, including technical parameters, time for preparing and implementing the design and production cost. The estimated production series size has decisive effect."

"This was also the case for the Fast ATA (A4000) controller, for which specific assumptions have been set forth, in which some parameters have been designed for the controller. From the very beginning, we have assumed that the A4000 FastATA controller would not make use of the DMA. Why?"

"The EIDE disks currently available are so fast that in the case of turbo cards which do not support Multiple Transfer Cycles the bottleneck is not the disk speed but the part of the turbo card's hardware which is responsible for co-operation with the Buster system."

"The turbo card does not wait for data from modern drives when these are operated in PIO-4 and PIO-5 modes, with disk reading executed locally by the FastATA controller and transmitted only when the turbo card hardware allows."

"EIDE Disks require processor engagement which is higher than for SCSI disks for preparing transmission of particular data blocks. These blocks are much shorter – maximum 16 sectors – than for SCSI disks. The actual processor offload would be small, and the maximum transfers from disks lower."

"If one really wants so much to feel the zero lack of the processor, it is null when twin-processor cards with PPC are applied: the PPC processor's load related to the FastATA 4000 is zero. The entire management is applied only by the 68xxx processor. The PPC processor may be used in parallel."

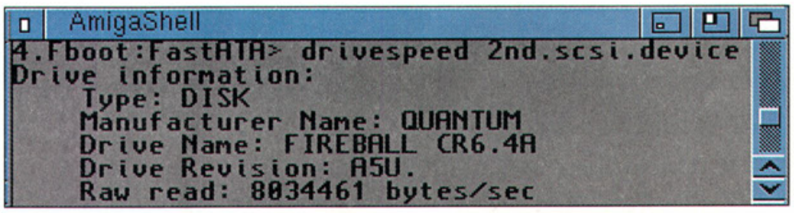
"Technically, switching to data transfer with the DMA mechanism is very simple, but production cost for the controller would be higher, due to the need of using several extra MACH structures, which perform the role of counters. Such a controller would be less universal due to the errors in DMA management in Amiga computers with older Buster versions."

The Mach upgrade

"The upgrade you have received from our distributor, has been delivered to all those who purchased controllers from the first, small, series produced before the Köln fair. These controllers have BootROM ver.1.1 marked on their EPROM chips.

"The original chip was programmed by us to the borderline parameters set forth in the ATA/ATAPI-4 specification. It has turned out, however, that a few models of drive, including the new Quantum Fireball series, have no reserve whatsoever against the worst case defined in the specification. The modification applied to the MACH210 ensures sufficient reserve for such disks."

Maciek Binek and Darek Dulian, support@elbox.com



Elbox's DriveSpeed command reads disk blocks as fast as it can.

with burst-capable CPU cards.

Elbox justify their design decisions in the adjoining box. It may be too late now to expect a full-spec Zorro III board, with fast, transparent DMA. Such a product would probably be pricier than the Power Flyer 4000, and also fussier about systems it worked on. The Power Flyer's raw transfer rate beats narrow SCSI, and is surpassed only by the Cyberstorm 3 and PPC's SCSI 3. It's fine for backups and access to big, cheap drives, but it's less suitable for real-time animation or Samplitude multi-track audio, where you need lots of CPU time as well as fast disk transfers.

The Flyer offers big-box Amiga users cheapness, for the interface and drives, and speed, as long as you've nothing else to do while it's busy. If you've already got a modern drive on the internal port, it will transform your Amiga – but if you have a Commodore Tower or SCSI add-on, then you'll lose some refinement in the switch from SCSI DMA to polled IDE, however fast the loops may be.

Simon Goodwin AF

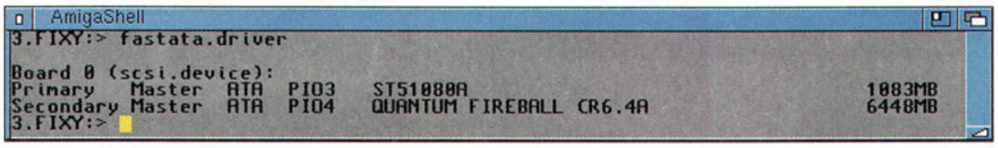
SUPPLIER: Power Computing, 82a Singer Way, Woburn Road Industrial Estate, Kempston MK43 2JK, UK.
Tel. 01234 851500
PRICE: £74.95
REQUIREMENTS: Zorro III Amigas

Pros and Cons

- **+ Fast transfers on big, cheap drives.**
- **+ Capable, compatible software bundle.**
- **+ Quick and easy Zorro slot installation.**
- **– Lacks Zorro III Direct Memory Access.**

OVERALL VERDICT:
A budget Zorro III card that trounces Commodore IDE.

83%



The FastATA driver reports drive specifications to a Shell window.



Workbench

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GET NETTED

I'd like to get the Internet for my Amiga as I have had to use a PC to send this to you.

What packages would you recommend and what modem would you recommend me to buy ?

Phillip Reed
via Freeserve

You can get an Amiga onto the net with nothing but freely-distributable software from the AF CD, but if this is you're first time or you if want unrestricted packages, then you're better off with a ready-made collection. There are four main options: NetConnect, recently upgraded to version 3, Workbench 3.5, which offers basic online email, a simple, stable browser and a limited Miami software 'stack' to link the programs to your Internet Service Provider.

The Internet options in Workbench 3.5 work, but they're not the main attraction. They're a halfway-house between PD and shareware and full commercial packages, which come with telephone support and a pricetag to suit. You can register the full Miami bundle online, to avoid the way it otherwise disconnects after an hour, but if you're strapped for cash you might not consider that to be necessary.

The other option is HiSoft's Net'n'Web, recently bundled with IBrowse 2. This is the cheapest but also the weakest as it's not been upgraded for a while. If you're serious about this you should ring a few ISPs and take their advice on the software that will work with their connections and your Amiga, because any chain is only as strong as its weakest link.

The modem is the least of your problems; any Hayes compatible external modem will work, and it doesn't make much difference whether it is rated at 28800, 33600 or 56000 baud. Virtually all external modems are Hayes compatible, but some come with a cut-down PC cable, requiring a 9 to 25 way adapter for the Amiga's full RS232C serial port. A serial port accelerator (Surfer, Hypercom, Twister or Zorro card) will make the best of the high rates, on the rare occasions when the computer at the other end actually tries to run the link flat out. It also copes better than the motherboard port when you're using lots of pixels and colour on an Amiga native screen.

COLDFIRE PROSPECT

I own an A1200HD and HP DeskJet 420c printer and am thinking about upgrading. I'd like an '040-type accelerator but I've read that the ones available can only use expensive single-sided SIMMs. I've recently been informed that a new 'Coldfire' based option from Blittersoft will shortly be available and will use a 168 pin DIMM socket, but what about one of the lower-end PPC 603e cards? Both come in at around the £200 mark, but which would be best? All I want is a beefy processor that I can get cheap memory for, to use things like Pro Page 4.1.

Alan Fisher
Plymouth



Blizzard 603e cards: something of a rarity.

Blizzard 603e cards are in short supply and the PPC won't do anything to boost the 68K code of Pro Page. A Coldfire-based Amiga could be a contender, as the MCF5102 Coldfire chip is essentially a 68040 core, shorn of the FPU, MMU, half the instruction cache and three quarters of the data cache. At 33 MHz it could still outrun an 030 at the same clock rate by two or three times. Other chips in the Coldfire family (like the MCF5307) are faster but useless to Amigans as they don't run the whole 68K instruction set. The Coldfire is well-understood although not yet used on any Amiga. We've yet to see this Blittersoft board, while full 68040 prices continue to fall; you could get a 68060LC, many times faster than a 5102, for £200 in Eyetech's Millennial sale, so there seems little reason to wait for Coldfire. DIMMs supply 64 bits of data at a time; this makes sense for fat Pentium and PPC systems, but is pointless on 68K chips which read 32-bit words in 128-bit bursts, matching the SIMM access cycle. Typically 8M, 32M and 128M SIMMs have chips on both sides; sizes vary and the A1200 case is cramped, but both Power and Eyetech can supply all capacities to fit their 68040 boards, and if you tower up your A1200 you can fit two SIMMs onto an Apollo or Blizzard 040. I've used double-sided SIMMs on both these, in desktop and tower Amigas.

32X CD SPEED

I have a Pioneer DR-32X CD-ROM connected to my A1200 via the internal socket where the HD plugs in as well. I have all the right bits and cables to use with the four-way IDE connector plus IDEfix, and have installed the CD-ROM as CD0: using the atapi.device and the unit ID is 3.

Is there any way to get my CD-ROM to boot from startup, so that if there is a CD inserted with a startup sequence the computer automatically boots the CD instead of booting to my Workbench or the CD32 Emulation? What speed should I expect to get out of a 32X CD-ROM? *SysInfo* says it reads 2,134,096 bytes per second. Is that right, bearing in mind it has only reached that speed a few times; more often than not it reads at 1,890,613?

P. Roberts
Wavenet

Yes, you can boot from a CD-ROM, even after starting up Workbench from a hard disk. However not all Amiga CDs which are bootable will work this way. Some rely on CD-Amiga features, which is why CD32 or CDTV emulation is a safer bet. CDs may lack extension files, like new CPU libraries, vital for stable operation of an accelerated Amiga. However I have managed to run old CD32 gamer discs, AUI cover CDs, and bootable compact discs like Eureka's CD32 Communicator, using a script like that in the adjoining box.



Revisit ancient AUI CDs with our CD startup script.

Feedback

VIDEO MIXTURE

Reading the *Amiga Format* issue 132 of January 2000, the Workbench section on page 50 mentioned that Scan doublers won't mix the native video signal with that from a graphics card, in the question from Sigma7 from Portugal headed 'GVP and RTG'.

Having the DCE Flicker Fixer built in my Amiga 4000, I didn't have a spare bracket to connect the FlickerMagic's video-out port. The standard CyberVision64 graphics card has both a video-in and video-out port, so it's really easy to solder the FlickerMagic's flat cable to the CV64's video-in port internally.

In this way all video modes will be available at the CyberVision64's video-out port.

Willem Schaaij
Holland

You're quite right, but the correspondent had a GVP Spectrum board with no video input, and sadly your 'standard' CyberVision64 was discontinued by phase 5 years ago; current CyberVision 64/3D models lack the built-in video switch. Eyetech's CMon gadget can combine the output from both, switching between them under Amiga keyboard or front-panel control.

MOUSE CLOCKED

In the Christmas issue, a response to "Mouse Hiccups" from Alan Kingsman of Suffolk suggested that he may have a crook mouse.

Although this may well be the case, I had similar symptoms to his, but found out through SnoopDos that the problem was in actual fact a title bar clock program that I had running, which seemed to be updating its font every second that the clock ticked over. Changing to a different clock program fixed my problem.

Peter Stuart
New South Wales

I followed up this suggestion, and learned that the programs which Peter rejected were "TClock" and "ScreenClock". He now uses "NISClock", which seems to behave itself a bit better, so I've put it on AFCD50. This advice might help others whose mice go awry even when their entrails are fluff-free.

CANON REBOUNDS

Thanks for answering so many of my questions in Christmas issue 131. With reference to feedback about my problems with my BJC250 Canon, I'm now convinced this is a mechanical problem with the printer itself, caused by a slight misalignment of the printer cartridge.

The BJC250 is one of those printers with either a three colour ink cartridge or a solely black one. This leads to frequent swapping between the two. There is a little locking lever which needs to be pulled down to hold the cartridge in position. I have noticed that sometimes this lever is hard to pull down and that this is when I get half width printouts. There is no obvious way of telling the proper position for placing the cartridge onto the guide bar correctly as the amount of tolerance for error must be minute – the only indication is the amount of resistance of the fixing lever.

When Mike Mayhew said his printer got confused he nearly got it right. I suspect he was changing ink cartridges as well as reconfiguring the printer back to its factory settings.

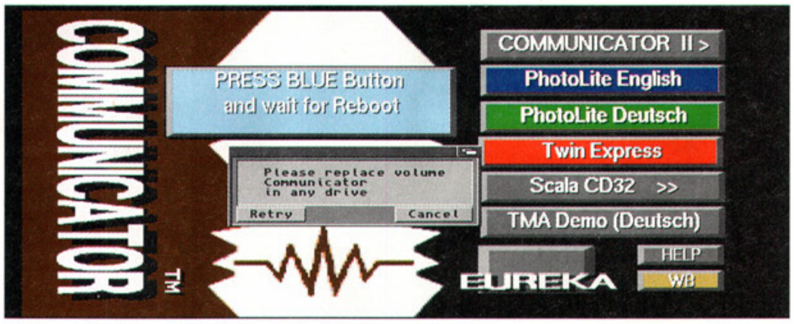
Bill Power
Co. Armagh

The trick is to divert the Amiga's attention from the original SYS: drive, where it looks for LIBS:, DEVS: and the vital S:startup-sequence, to the CD drive. You can then run the CD's own startup code. I've put an icon which runs this script in the Workbench drawer on AFCD50. You may need to edit it or add an ASSIGN if your drive is not called CD0: – a lot of CD32 programs assume this drive name.

The speed you are getting is perfectly plausible. The motherboard IDE interface can manage up to 3.5 megabytes per second with the right accelerator and a following wind. In theory your CD-ROM drive could deliver 5.5 Mb/second, given a Flyer or similar fast interface, but you should not expect to get anywhere near that in practice.

The 32x figure is a marketing statistic which exploits the way that cheap drives made for PCs work at a variable bit rate; as the laser scans further out on the disc, the bits go past faster.

Unfortunately most data comes from the start of a CD, near the middle, where the diameter is much less and so data is available at less than half the speed. As I noted here in September, an old 8x drive might in practice be as fast as a newer one rated at 20x by PC vendors. SysInfo reads from the start of the disk, where it can be sure to find data. Your drive is working properly – SysInfo is just being more honest than its makers.



Fool your Amiga into running CD-32 Communicator code.

Example Script

```
ICONX Script to boot from CD0:; By Simon Goodwin
& Peter Corlett

sys:c/assign OLDSYS: SYS:sys:c/assign SYS:
CD0:failat 21; First, clear all
assignmentsoldsys:c/assign >nil:
C:oldsys:c/assign >nil: DEVS:oldsys:c/assign
>nil: FONTS:oldsys:c/assign >nil:
L:oldsys:c/assign >nil: LIBS:oldsys:c/assign
>nil: S:; Then assign to CD-ROMoldsys:c/assign
>nil: C: SYS:Coldsys:c/assign >nil: DEVS:
SYS:DEVSoldsys:c/assign >nil: FONTS:
SYS:FONTSoldsys:c/assign >nil: L:
SYS:Loldsys:c/assign >nil: LIBS:
SYS:LIBSoldsys:c/assign >nil: S: SYS:S;
Finally, assign to hard disk
againoldsys:c/assign >nil: C: OLDSYS:C
ADDoldsys:c/assign >nil: DEVS: OLDSYS:DEVS
ADDoldsys:c/assign >nil: FONTS: OLDSYS:FONTS
ADDoldsys:c/assign >nil: L: OLDSYS:L
ADDoldsys:c/assign >nil: LIBS: OLDSYS:LIBS
ADDoldsys:c/assign >nil: S: OLDSYS:S ADD; Set
current directory to root of CD-ROMcd SYS:failat
10execute s:startup-sequence
"Execute this script to start up an Amiga
bootable CD"
```

SLOW BURN

My setup consists of a Towered A1200 with an IDE hard drive and CD-ROM, a 160 MHz PPC with 25 MHz '040 and most recently a BVision graphics card. I was disappointed with the poor scrolling performance of the graphics card when playing Napalm even with CyberGraphX version 4.

I was told that a faster processor would help. Is this true? If so, how do I go about overclocking the '040 on my PPC? Is it like overclocking an Apollo '040, which I have done successfully in the past? I have noticed that the crystal casing is a different shape on the PPC to that on my Apollo.

David C
no address supplied

A faster CPU might help, but the difference by overclocking the 68040 is unlikely to be noticeable. It's not as easy as overclocking an Apollo, as there are interactions between the two processors to consider. There's a Web page dedicated to hotting-up Blizzards: http://www.zap.to/ppcoverclock. Ideally you need a 68060, or more tightly-written software. Napalm is slow, but you could tune the response by selecting a different graphics mode. The BVision is based on a PC chip set which cannot match the Amiga's scrolling. It's optimised for true colour and 3D processing, but those are not features that Napalm uses.

MONITOR CHOICE

I've just got a Power Computing internal scan doubler/flicker fixer and I was just wondering what the difference was between a SVGA and VGA monitor, and which one is the best. I realise the SVGA will be better but to an Amiga user without a graphics card what will the difference be? What should I be looking for in a monitor?

My Amiga is currently crammed into its original case, minus keyboard, with an Apollo '040/40, 32 M RAM, a universal keyboard

Continued overleaf ➡

NETWORK FILE SYSTEM

In the networking feature in AF132 you stated that "a true Amiga NFS has been long awaited." I'm confused; the last time I downloaded Ami TCP4.0 from Aminet I got an NFS implementation called ch_nfs with various settings for NFS mount files, etc. Is this not true NFS? I was hoping that it was, as I wanted to use NFS to share data across all my machines without resorting to FTP.

Tudor Davies
via AFB

There are two sides to supporting NFS; you need a server, to 'export' drives to the network, and a client, to access those remotely. Over the last decade there's been much talk of a full Amiga NFS, but no-one has cracked the whole problem. The demo of AmiTCP 4 does indeed contain an unfinished NFS client, based on Sun Microsystems code from 1984 – the same code ships in Genesis, though it has not been updated since 1994. Commodore's old AS225 stack included some rather hackish NFS support, but you still needed a real Unix box to act as server; you could access the Unix machine's files, but the lack of a server for AmigaOS prevented us exporting our files in the opposite direction. The good news is that since our feature was written an "unfinished" NFS server has at last popped up on Aminet, courtesy of Joseph Walton and Henryk Richter. Early source and object code are on AFCD50, and updates will be made available at: http://www.pr0n.freeserve.co.uk/nfsd.html. Documentation is scant; it should all make sense if you're familiar with Unix, and probably none at all otherwise. If that doesn't work, there's always Samba, though we manage with raw FTP between the Macs and Amigas in the AF office.

interface, a Silver Surfer high speed serial port and a four way EIDE interface with a small HD. I'm in the middle of chucking it all in a tower and I'm going to add a bigger HD and a CD-ROM.

Graham Jaguar
email

IBM's original VGA standard allowed a resolution of up to 640 by 480 pixels in 256 colours. Around 31,000 lines were generated every second, corresponding to the 31 kHz horizontal scan rate. The colours were selected by varying analogue voltages on three wires, for the red, green and blue component.

Analogue voltages theoretically allow infinitely fine gradation of hues. Most PC palettes allow 64 levels, compared with 16 for old 16-bit Amigas, and 256 levels for AGA systems, giving 24-bit true colour – eight bits for each component.

VGA monitors were made for 18 bit colour, but most can resolve 24 bits without problems. Sadly the common flicker fixers made by DCE only store six bits per component, so you don't get quite the full AGA range through the scan doubler. You can see this if you run WBverlauf for a graduated colour background; distinct bands are visible in flicker-fixed modes, compared with the smooth fade direct from AGA.

Most people consider the banishment of flicker and support for cheap monitors outweighs this slight blemish. SuperVGA monitors support higher pixel resolutions – 800 by 600 and upwards – and higher scan rates, for more lines with less flicker. Lots of companies made 'SuperVGA' devices so it's rather a moving target, but an SGVA monitor should display VGA mode as well as better ones.

It's hard to see more than 800 by 600 pixels on a 14 inch monitor, and anything beyond 1024 by 768 demands a 17 inch or bigger screen – an expensive proposition.

A basic VGA monitor is well-suited to Amiga motherboard graphics. You can use it directly in Multisync/Productivity mode, at its intended resolution, and squeeze out a few more pixels in each direction by scan-doubling an interlaced PAL display. This overscans to 720 by 566 pixels at 31 kHz, still within VGA limits.

VGA screens are usually 'single-scan' – they only lock on to scan rates around 30 to 32 kHz, and give garbled displays at other rates, like Super72 (800 by 600) or HiGfx (1024 by 768, also interlaced) – or in TV modes like PAL and NTSC, unless through a scan-doubler. The higher scan rates of SVGA monitors are little use in Amiga modes, because if you make the Amiga scan any faster you lose horizontal resolution. The pixel rate is limited to about 29 million per second, so 768 flicker-free lines are quite possible with 44 kHz horizontal scans, but at that rate you'd only have 256 pixels per line! Scan doublers are based on TV parts so they only boost 15 kHz modes, and not the more esoteric Amiga ones.



Monitor choice: do you need SVGA?

The main reason for getting an SVGA monitor is that it's readily available new and will support the higher resolutions of graphics cards. There's no graphics-card option for your Apollo, short of pricey Zorro or Z4 expansion, so VGA might suit you fine, if you can find a suitable second-hand unit.

SVGA monitors are available in larger sizes, and support a range of scan rates, rather than just 31 kHz. With luck you might find one that could sync to AGA DblPAL rates, around 27 kHz, for the full 24-bit palette, but you'd be lucky indeed to find an SVGA monitor capable of HiGfx or Super72 scanning, at 22 kHz, and your flicker fixer won't enhance those modes.

TWO DRIVE RISK

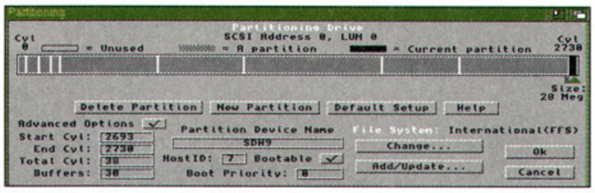
I run an A1200 with a Blizzard '030, 16M RAM, a CD-ROM and two hard drives. I have one hard drive inside my Amiga casing and one inside a tower with my CD-ROM. I access the second drive by using IDEfix. The drive inside my A1200 contains two partitions, one of which is the boot partition. I am concerned that if the partition should fail or become corrupted I won't be able to access my second drive which contains the core of my programs and saved items (1.3 G).

I know that IDEfix startup is in the startup-sequence which runs from DH0 (Workbench). So should DH0 fail, how would I retrieve data from my second drive? Either by-passing Workbench altogether or by using my Workbench disks, can I use the second hard drive to retrieve data from the first?

If I boot my computer using the No Startup Sequence menu, the second drive doesn't show up at all and all the assigns (Turboprint etc) have to be cancelled as the computer can't find them. This is a problem with IDEfix as any game that needs to boot from a floppy (bootdisk) needs to go to the first hard drive – my smallest drive.

Mr S Anslow
no address supplied

You're right to worry about this, because if you lose your current SYS: partition the existing system will be hard to recover. The second disk drive is connected to the secondary connector of the IDEfix four-drive adapter. The Amiga looks for a master and slave drive on the primary port, but needs extra software – part of IDEfix – before it will scan the secondary connector, unimplemented by Commodore. If the big drive can be configured as a slave, you would ideally move it from the secondary to the primary connector. The Amiga can boot from either a master or slave, and both



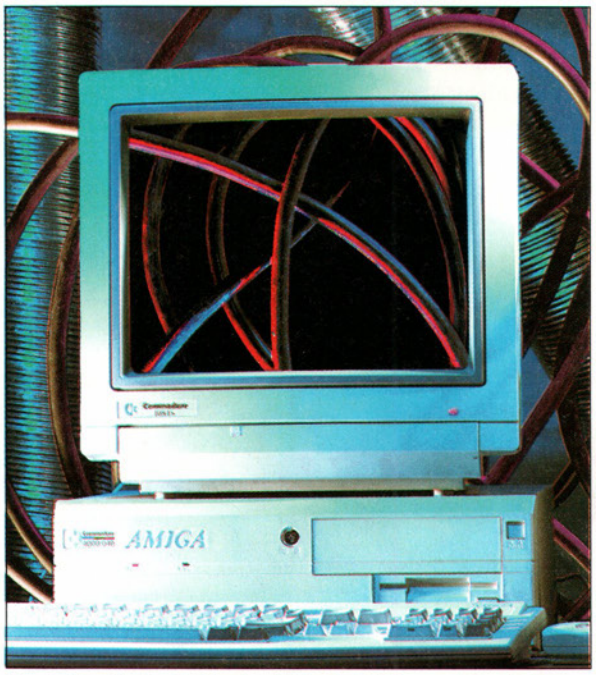
A low-priority bootable partition can prove to be a virtual lifesaver.

drives on a primary connector will show up at once. IDEfix is only needed for CDs or a fourth drive, which could go on the secondary connector. The snag of putting both drives on the primary connector is that they might not work together. Some small 2.5" drives do not check for a slave, or lack configuration jumpers. However I've been able to use an external 3.5" drive from my A4000 jumpered as a slave, on primary port with an untouched 2.5" drive inside an A1200. If your internal drive is well-made, this should work for you too.

The neatest solution to this dilemma is to make a spare 'boot' partition, which your computer will use automatically if the current SYS: partition becomes unreadable. This extra partition could go on your current boot drive if you can't get it elsewhere onto the primary interface.

The first thing you need to do is make a backup of the material on your first drive, probably by copying to the big one, though a removable drive would be very useful at this point. Then I suggest you repartition the boot drive, adding a small partition – 10 M should be plenty – with a clean Workbench, installed from your floppy disk set. Use HDToolbox to make the new partition bootable, and set it to a low boot priority – zero is a good choice – and install IDEfix on that partition.

When the Amiga starts up it checks the boot priority of all the drives listed in the early startup menu, and boots from the highest-priority one, unless you explicitly select otherwise. Floppy drives use boot priority 5, so they override hard drive partitions if they contain a bootable disk. Your normal SYS: partition should have a lower, positive priority. If this gets damaged the Amiga looks for another partition to boot from. All my drives have a 'FIX' partition which contains a basic system installation, HDToolbox, DOSDrivers and DiskSalv. If the Amiga boots from this, rather than the usual boot partition, you can run DiskSalv or similar tools to make repairs, and copy the backup from the other drive, if all else fails. You can make a 'recovery' floppy, with IDEfix, DiskSalv and a small system, but there's not room for much on an 880K floppy; a secondary boot partition is a lot more capable.



You Amiga checks the boot priority of all drives and boots from the one with the highest priority. Just so you know...

CLOCK SYNCHRONISATION

I read your article about overclocking in AF129. I have a Blizzard PPC with a 68040 at 25 MHz. In your article you said that a 68040 at 28 MHz synchronises better with Amiga motherboard signals and that a 68040 at 25 MHz can safely be pushed to 28 MHz.My question is this: apart from the 2 MIPS extra speed I get, what does this better synchronising mean exactly? Does it make my Amiga faster?

Remco Komduur
Holland

The Amiga 1200 motherboard is variously clocked at 7.1, 14.2 and 28.4 MHz. These signals synchronise the fetching of video data (up to 64 bits, 7 million times per second), the generation of pixels (SuperHiRes and productivity mode pixels come out every 35ns, a rate slightly over 28 MHz) and the on-board 68020 processor, clocked between the two at about 14.2 MHz. In fact the 28 MHz master clock is generated by a crystal on the board, and divided down to generate intermediate pulses at lower rates. The exact frequency depends on the motherboard and TV standard – an American NTSC Amiga starts from 28.63636 MHz, while European PAL standards demand a slightly slower 28.37516 MHz clock.

When an accelerator wants to communicate with the motherboard it can't just dump data across the bus, because the Amiga might not be ready to receive it. It must wait till the right phase of these clocks. Once in every four beats of the basic 7.1 MHz clock, there's an opportunity to transfer data. 32-bit A3000 and AGA systems can transfer four bytes, while old Amigas manage just two bytes in the same time. The reason a 28 MHz card synchronises better than a 25 MHz one is that 28 MHz (or 28.4 MHz, ideally) stays in step with the motherboard. The Warp Engine was marginally overclocked to a little past 28 MHz, so that once it had achieved synchronisation with the motherboard it could be sure of another chance to transfer data a neat, whole number of cycles later. Slightly slower boards periodically miss the bus, and have to wait almost as long again for the next one. If an accelerator runs at or close to a multiple of the motherboard speed, it may get twice as many chances to access the motherboard. Commodore's 25 MHz 3640 card came close to the worst case; the chip supports a 160ns four-clock transfer cycle, but this is stretched to 280ns to meet the motherboard; a second transfer arrives after 320ns, just missing the boat. Overclocking the 25 MHz 68040 processor to 28 MHz allows 75 per cent more throughput. This effect only affects motherboard transfers, like AGA graphics updates. If your program uses memory on the accelerator, or a local BVision graphics card, the speed boost is just proportional to the clock rate – a measly ten or fifteen per cent, the extra couple of MIPS you mentioned.



Pix Pro for 50p is a bargain – as is AF for £5.99.

BARGAIN HUNTER

I went to a car boot sale and I saw a copy of Pix Pro, with all the documents, registration card, everything. I asked the lady how much she wanted, and she said ten bob.

Did I get a good deal?

David McGlynn
Winsford, Cheshire

Yes! If only all questions were this easy...

Simon Goodwin

GOT A QUERY?

Make sure you submit them correctly:

- **Send your emails to amformat@futurenet.co.uk with the subject "Workbench".**
- **Send letters to the usual *AF* address and make sure you put "Workbench" on the envelope.**
- **Include details about your machine, such as what processor and how much RAM it has.**
- **Do your best to describe your problem succinctly.**
- **Make sure it wouldn't be easier to contact the dealer you bought the item from and ask them.**
- **Be concise!**

Amiga.net

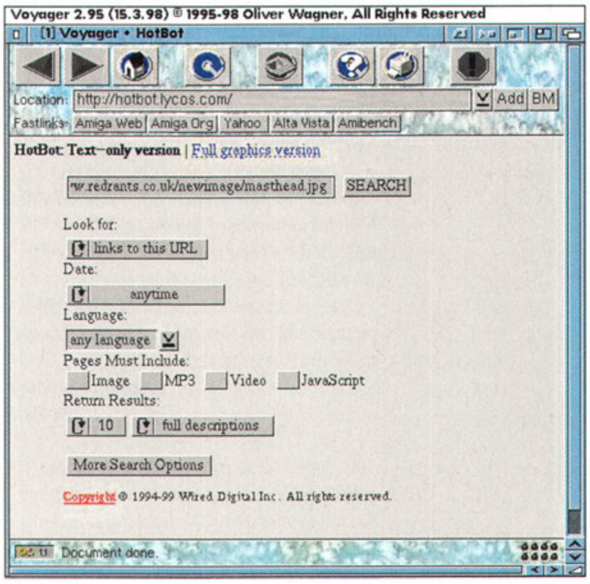
How to protect the copyright of your online material

On the Internet, copyright theft abounds. So what can you do to protect the material on your website from potential thieves? One of the consequences of storing data in a digital format rather than an analogue one is that it becomes possible to copy the data without a loss in quality. Whereas somebody photocopying a document would have to put up with a less sharp duplicate, somebody with a computerised document is able to produce a copy which is in every respect identical to the original. It's also much easier to copy a digital document than it is a paper-based one; you don't need special hardware to do it. All it takes is a couple of clicks on your computer and you have an identical copy.

YOUR COPYRIGHT

The ease with which carbon copies can be produced on computers has repercussions for copyright holders. We've seen record companies becoming extremely worried about MP3 files because they contain near-CD quality audio, and of course they can be copied and transferred as easily as any other computer files. But MP3 files are only the tip of the iceberg.

Essentially, when you produce any piece of work yourself, be it a passage of text, an image, the code of a program, or even the source of an HTML page, you are deemed to hold the copyright in the work. (You'll doubtless have noticed that many websites feature little copyright notices at the bottom of every page asserting the author's ownership of the material.) Whenever somebody copies any of that work without your permission, they're



Hotbot has some useful features, such as the facility to see which sites contain links to multimedia files on your site.

breaching that copyright. Though, in fact, a little bit of copyright breaching is really essential to the healthy operation of the Internet. Internet Service Providers frequently use proxy servers and web caches to store copies of files retrieved from remote sites so they can be quickly transferred to other customers wanting to view those same pages. Last year, it was ruled that such caching of pages is illegal because it breaches copyright rules. Well yes, it is, but, as many ISPs protested: if they didn't cache pages, the Internet would

> **CONTACT POINT**
>
> **You can contact me with your comments, questions and suggestions at dave@cusick.co.uk or through my website at http://www.cusick.co.uk.**

slow to an absolute crawl due to the sheer amount of traffic. Fortunately, the legal powers that be listened to the protests.

CACHE FOR QUESTIONS

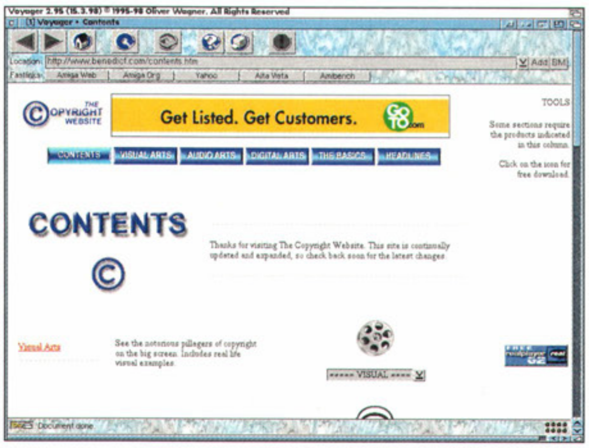
Similarly, whenever your browser caches pages on your hard drive, technically you're breaching the copyright in those files. If you visit a site on which every page carries a masthead graphic identifying the site, this graphic will only actually be downloaded by your browser once. It is subsequently retrieved from your hard drive rather than from the remote site. Not only does this speed things up for you, it also reduces the strain on the remote server.

In this instance, the breach of copyright is considered acceptable. But quite apart from these special cases, the web makes a real mockery of copyright rules because it makes it so easy for people to steal work. It's easy to cut and paste a piece of text from a web page, or right-click on an image and save it to your hard drive, or view the source code of a web page and save it for editing and re-using later. Nobody thinks twice about doing it.

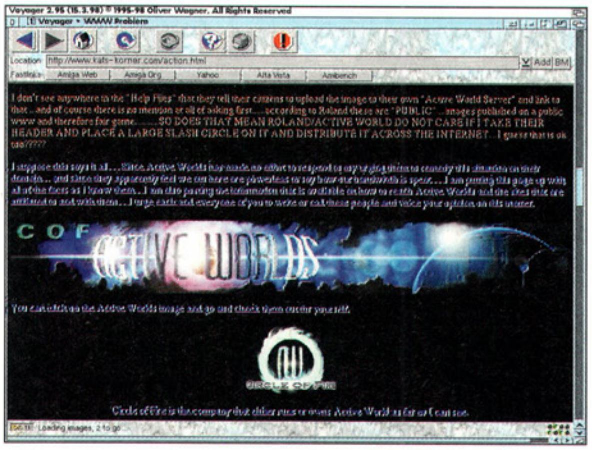
So if you have a website of your own, how can you protect your work? Well, there a number of possibilities. The most obvious one is to assert the copyright in your work

Web Guard is an organisation which was formed to campaign against bandwidth theft.





There's plenty of relevant material at the Copyright website.

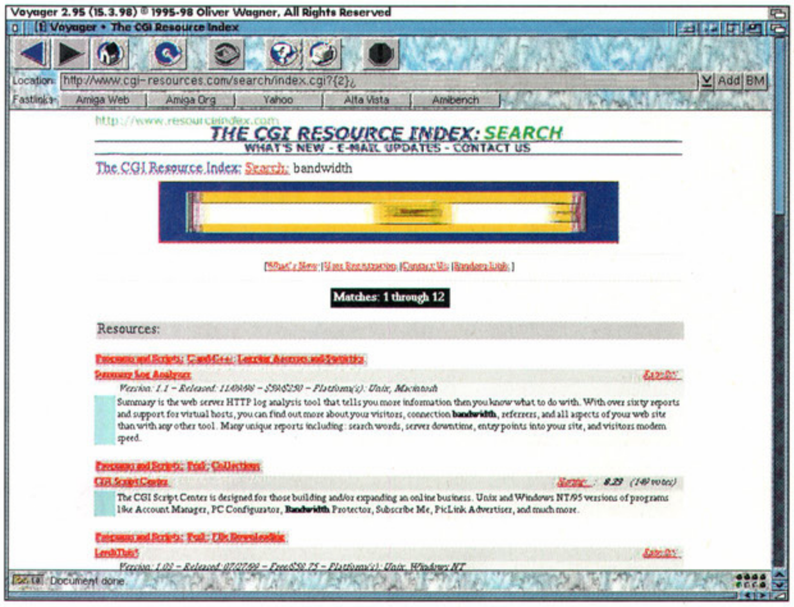


Victims of bandwidth theft, like the chap behind the page at www.kats-korner.com, understandably feel aggrieved.

whenever you get the opportunity. Place a notice on the bottom of every page in your site, and stick a copyright comment in the HTML source too. Many people will probably totally ignore it, but a few might just think twice before copying your material. If you're worried that people might be lifting pages verbatim from your site and presenting them on their own site as if they were their own work, the best thing you can do is to regularly check the search engines using keywords similar to those in the meta tags on your page. The sort of people who steal entire HTML pages tend to be those who can't create their own pages, and these are the kind of folk who don't know their meta tags from their elbow. If they've left the same meta tags in the page that you put in your original page, the stolen pages and your originals will appear next to each other in the search engine results.

So if you have a website of your own, how can you protect your work? Well, there a number of possibilities

Images are the most commonly lifted elements of web pages; because not everybody has artistic talent, if you have, and you post attractive pictures on your site, then there is a good chance that less talented individuals may want to use them on their own site. If all they need to do is right-click and save the image, then there's very little you can do to stop them. The best bet may be to try to deter them by putting little copyright messages, your email address or some other form of branding in a prominent position on each image. This way, if another site does use one, then at least visitors will know that it's been stolen from your site.



CGI Resources has hundreds of great CGI scripts you can use, including some which can help protect your from bandwidth thieves.

BANDWIDTH BANDITS

One nasty form of image appropriation is when people link to images on your site from directly within their own site. This is bandwidth theft; not only did you create the image they're using as part of their own site, but you're also the one paying for the bandwidth which is being used by visitors to download the image. Since you'll be charged extra money or may even have your site closed down by your ISP if you use an excessive amount of bandwidth, this can end up costing you.

If your site contains attractive video sequences, sound clips, or large high quality images, you are particularly under threat from bandwidth thieves, because these take up a lot of bandwidth.

Catching bandwidth thieves is hard, but there are a couple of things you can do. The first is to regularly check your log files, if your ISP supplies you with them. If, for example, a particular multimedia file is being accessed far more often than the HTML page in which it is contained, then it suggests that somebody is linking to it. To find out who, pop along to Hotbot, and in the drop down "Look for" menu, pick "links to this URL". In the search box, enter the full address of the file in question and you'll be presented with a list of sites which contain a link to it. Obviously since Hotbot, like all search engines, doesn't cover the whole Web then this isn't guaranteed to produce results, but it's worth a try.

If you can install CGI scripts on your server, you might also want to visit CGI Resources (which, incidentally, should be your first port of call whenever you want a CGI script; there are scripts here that will do all sorts of fancy things). Run a search using the keyword "bandwidth" and, amongst the results, you'll see a host of Perl scripts – some freeware, some shareware or commercial – that you can install on your server to protect you from bandwidth thieves by blocking accesses to image files from outside your website.

Dave Cusick



The Cyberspace Law Center is a great site. Take a look in the Intellectual Property section for information on copyright.

USEFUL WEBSITES

The Copyright website www.benedict.com/contents.htm
Web Guard (campaigning against Bandwidth Theft) www.darklock.com/webguard/
A victim of Bandwidth Theft www.kats-korner.com/action.html
Hotbot: www.hotbot.com
CGI Resources www.cgi-resources.com
Cyberspace Law Centre http://cyber.findlaw.com/

Creative

The complete beginners guide to... Troubleshooting

On the CD
-In_the_Mag-/Troubleshooting

Before you pull out all your hair or throw your computer out the window, follow our guide to getting software to work

Another Creative Section in *Amiga Format*, another Complete Beginner's Guide. This time we turn our attention to troubleshooting. Now this may sound like a rather vague topic – but let me tell you it is a snappier title than some we thought of!

The idea is to present some practical advice on how to approach software failures on your Amiga. We discuss common causes, points to watch for and life-saving tools. Before you all cry, "Seen it before," have patience. The problems and methods discussed here were chosen specifically because readers phone us up with exactly these sorts of difficulties.

The more alert of our readers may have noticed that several of our tutorial series are nearing an end. While we do have ideas kicking around for replacements, we would like to hear what subjects you want covered in tutorials. We aim to please, after all. Drop us a line at the usual address.

Richard Drummond

CREATIVE INDEX

50 Beginners Guide
Richard Drummond tackles the topic of what to do when things go wrong.

54 Practical JavaScript
Break out of the confines of the page as Neil Bothwick discusses frame tricks in Javascript.

56 Useful ARexx
Nick Veitch reveals the mysteries of Workbench 3.5's ARexx port and uncovers some bugs.

58 Program Perfection
Using the system clipboard, IFF files and yet more BOOPSI from Richard Drummond.

60 Banging the Metal
Simon Goodwin create character mapped screenmodes with some devious hardware bashing.

What do you do when an application refuses to install, a program fails to run or some software spews cryptic error messages at you? Do you pummel the keyboard, hurl abuse at the monitor screen or simply give up and cry? With this guide, you will learn to take setbacks in your stride and also to tackle problems systematically.

In a perfect world, when software fails it should tell you why – not necessarily in the kid-gloves way that Mac software generally reports errors, but in enough detail to be useful. The reality, though, is that often the computer will simply reboot, lock up, or the program will exit with no mention of what went wrong. In these situations, how do you go about locating the problem?

> *In a perfect world, when software fails, it should tell you why – not in a kid-gloves way, but in enough detail to be really useful*

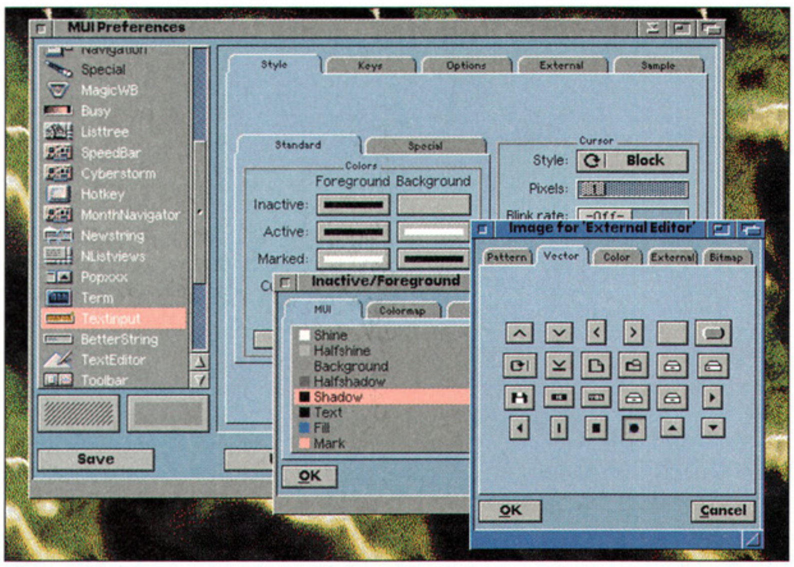
THE OBVIOUS

The first thing is to make sure you have read any documentation supplied with your problematic software. Are there any specific hardware or software requirements for using this software? Check that you have a powerful enough processor and an FPU if it is required. Sometimes packages will ship with different executable versions for specific processors. Make sure that you are using the one that is appropriate to your system.

If memory requirements are stated for the program, verify that your system matches them with some to spare. Even if you appear to have enough memory free, check that your memory isn't fragmented. There are various tools to report on the degree of fragmentation, but a quick method is just to call the Avail command from a shell. This will print out various statistics about total and free memory, but the fourth column will show the largest chunk of each type of memory available. If a program tries to allocate a chunk larger than this it will fail. The easiest way to de-fragment memory is simply to reboot your machine, but you could try closing down all unnecessary applications and tools and issuing an `Avail FLUSH` command.

Another factor to consider is Chip memory, especially on machines without a graphics card. Perhaps the program you are trying wants to open a screen which requires more Chip memory than you have remaining. This is more of a problem with games, which are typically hungry for Chip memory. Try reducing the resolution and number of colours of your Workbench screen and turning off any WB patterns or backdrops – even if only temporarily – to free up some memory.

Graphics hardware is a complicated issue on the Amiga because of all the variations available and the lack of an official



Many applications require MUI for their graphical interfaces. If any custom classes are required, make sure the latest versions are installed.

graphics API. If the program uses the native Amiga hardware, which chipset does it require? If it demands a graphics card, does your card support the necessary screenmodes? Obviously, programs that require high- or true-colour displays will not work on a machine with native graphics only. With the new breed of 3D games being released, graphics hardware is becoming more significant. Does your card have enough memory for display and texture caching? Does the game require a card with 3D acceleration?

VERSION CHECKING

All programs and software components that adhere to the Commodore style guide should have a version number embedded in them for identification purposes. This includes ordinary executables, libraries, devices, datatypes and so on. This is of particular importance for shared libraries since client software that uses a particular library can request a minimum revision of that library to open. If it can't find it, it will fail.

How do you go about checking the version number of some program or component? This is performed by the Version shell command. The command works both for files and software resident in memory. Enter Version followed by the name of what you want to query. Version searches in memory first. To make it look for a file, use the switch FILE and the command must be able to locate the file, so specify the path if necessary. For example:

```
Version graphics.library
```

will return the string

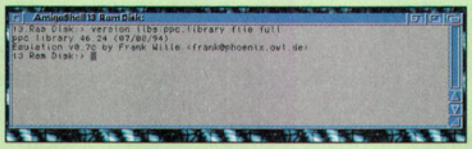
```
graphics.library 40.24
```

on a machine with 3.1 ROMs.

```
Version LIBS:powerpc.library FILE
```

will look for the powerpc.library in the LIBS: directory and for machines with WarpUp 4.0 installed will display

```
powerpc.library 15.0
```



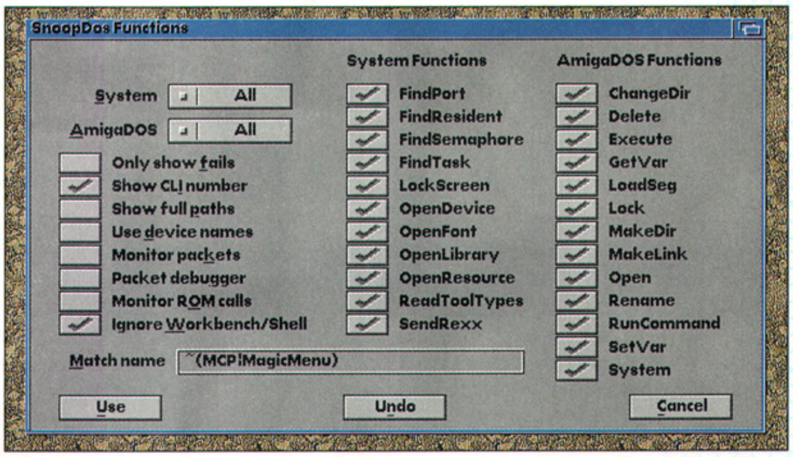
It is easy to find any software's version number from the shell.

THE NOT SO OBVIOUS

Software requirements are more varied and so more complex than hardware requirements. Start by ensuring that you have the correct operating system version required for running the program. While software written for OS2.04 will run on OS3.1, the reverse is rarely true. Hopefully, everybody should now be using OS3.5, so this will be not such an issue.

Next check what third-party software is needed by the program you are trying to use. Does it require an RTG system such as Picasso96 or CyberGraphX? If so, have you got the latest versions installed. If it uses the retargetable audio system, AHI, do you have that installed and configured correctly for your hardware?

Does the software require one of the many add-on GUI kits such as MUI, ClassAct or BGUI? If so, you should have these installed. You can find all three on our coverdiscs every month in the +System+/Tools/GUI drawer. MUI adds extra complication due to the large number of extensions available, the so-called MCCs or MUI Custom Classes. Again, check what is required and make sure you have it. Generally, most additional MCCs will be installed automatically by software that requires them, but, if not, you can usually find the latest versions in the Aminet in the dev/mui drawer. Typically, MCCs will have their own install script. If your software installs any MCCs itself, ensure that it does not overwrite any newer version you may already have on your system. When the installer is in Expert mode, it will do version checking and inform you if you already have a newer copy.



SnoopDOS's Functions window allows you to choose which tasks and functions will be monitored.

Having read the documentation and double-checked that your system meets any hardware and software requirements, what next? It may sound stupid, but are you sure you are launching the program in the correct manner? Again, here, consult the documentation. Is it meant to be started only from the Workbench and if so what arguments does it expect as Tool Types? These can be changed from WB's Information requester if necessary. Alternatively, if the program is designed for use from the shell only, then run it from a shell. Again, check that your are supplying the correct arguments if any are needed.

BEHIND THE SCENES

You have checked everything and the program you are trying to run still refuses to cooperate. And it doesn't tell you why. What next? Well, you can use one of a variety of monitoring tools to find out what the offending program is trying to do.

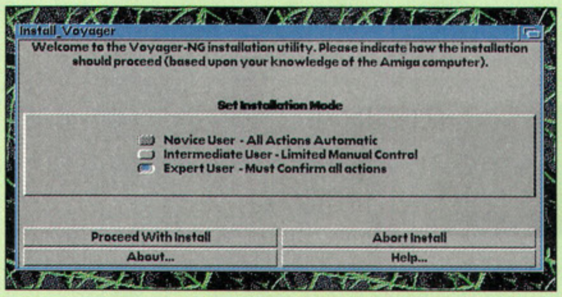
Possibly the most useful diagnostic tool for the Amiga is Eddy Carroll's *SnoopDOS*. It's so useful, in fact, that you can find a copy of it on each of our coverdiscs in the +System+/Tools drawer. *SnoopDOS* patches the most common operating system functions, so that when any (or only a selected) program calls them, their use can be tracked and displayed on screen. This will help you determine what files a program tries to open, what libraries it needs, what Tool Types it expects, any ARexx commands it sends, and so on. It can really help you to fathom out what is going wrong.

A typical *SnoopDOS* session will begin by you starting *SnoopDOS* itself before running the program you want to monitor. *SnoopDOS* is at its most useful when it is set up to track all of the functions that it can handle. There is an option to make it report only calls which fail but this can give you a skewed picture of what is going on. For example, when a program uses the OpenLibrary() function to open a shared library, if that library is not resident in memory then the system will look for it in various places, typically the current

Continued overleaf ➡

INSTALLATION

Installing software on your machine has been made easier since Commodore created the standard Installer utility, but there are things to be aware of. Are you using the correct version? Owners of OS3.0/3.1 Amigas should have at least version 43.6 of Installer, while OS3.5 users should have version 44.10. When installing software, always choose the Expert option, even if you are not an expert; it allows you more control over the process. If you don't know what you are doing, read the help pages. That's what they are there for. Last but not least, if you suspect faulty installation, turn on the Log File option. Perusing the generated log should give you some idea of what's going on.

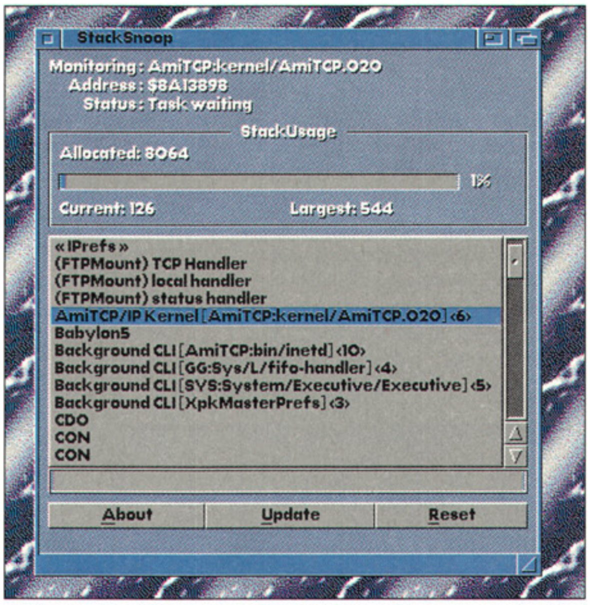


Always choose the Expert User mode when installing software, even if you don't consider yourself an expert.

directory and any directories assigned to the LIBS: logical device. If *SnoopDOS* was set up to show only failures and the library was not located on disk in the first place that the system looks, you would see only the failures and not the successful opening of that library. So you end up getting the mistaken impression that the library could not be found.

In most cases, the log of events that *SnoopDOS* generates will be updated too quickly for you to follow. One way of following the action is to use the pause function. This will freeze all activity for the monitored functions from selected tasks, so will most likely pause the whole machine, until you later un-pause *SnoopDOS*. Another option is to spool the event log to a file with the Open Log function. This will ask you to select a destination file for the log. It is usually safest to create a file on a RAM disk, since a crash while writing to a hard drive could cause invalidation. A reset-proof RAM disk, such as the standard RAD device, is even better, because the log file will then survive a system crash.

You can rationalize the amount of information that *SnoopDOS* generates by selecting which tasks it monitors. This is achievable via the Match Name option in the Functions window. You enter a standard AmigaDOS pattern and only function calls from tasks whose names match this pattern will be logged. For example, entering (TaskA|program2) will log calls made only from tasks called TaskA or program2, while entering ~(MagicMenu|MCP) will track calls made from all tasks except *MagicMenu* or *MCP*. But be careful of being too selective because a program may launch additional tasks to perform its processing.



With StackSnoop you can find out how mach stack space a program requires.

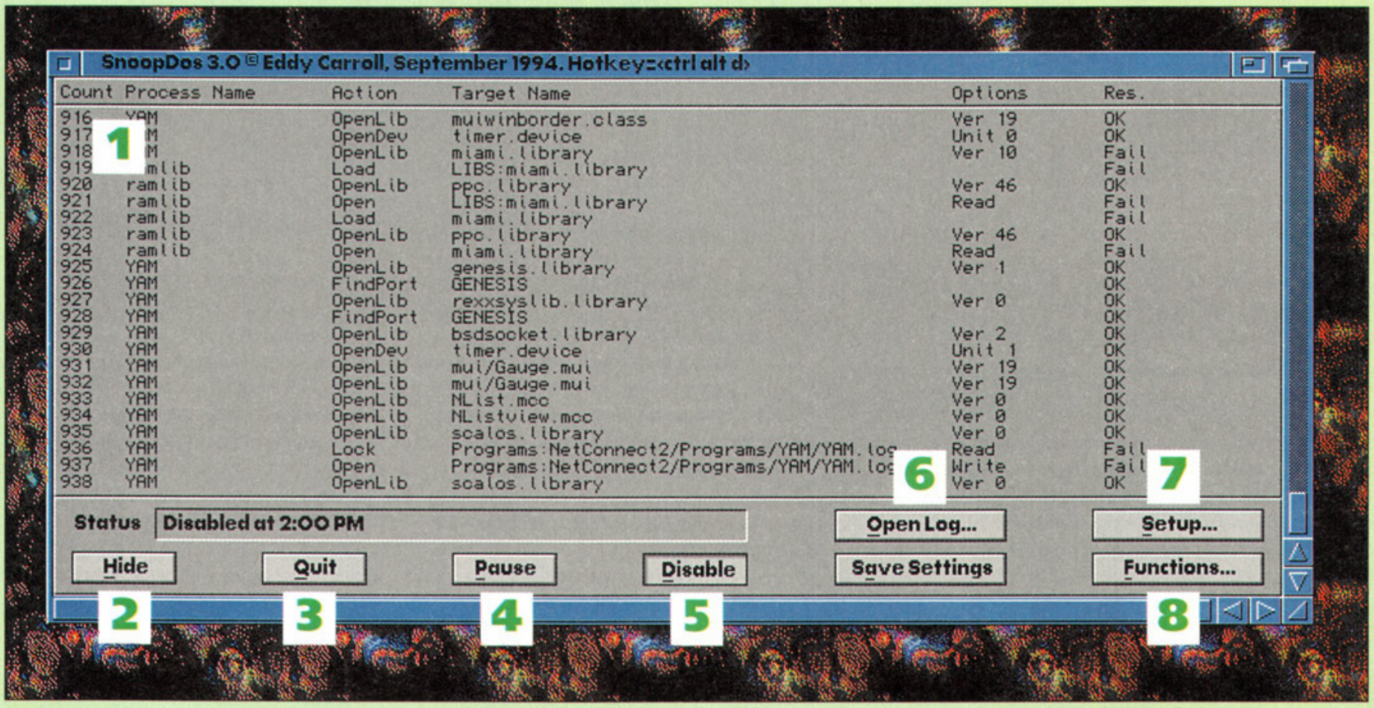
SnoopDOS is supremely useful, but other monitoring programs exist. *Snoopy* is very much like *SnoopDOS* except that it can monitor all calls to any shared library, not just a select few like *SnoopDOS*. It is thus more difficult to set up but is more powerful. If you are feeling really brave, you could try a tool such as *Enforcer*, which reports illegal memory accesses. This can help you isolate which program is at fault, but the information it generates will likely be meaningful only to the program's developer. But it can be useful when giving a bug report to the software's author.

STACKS 'EM UP

One aspect that is often overlooked is a program's stack settings. Even the program's developer may not have set this adequately, if at all.

Each task running on your Amiga gets an area of memory allocated to it for

THE SNOOPDOS MAIN WINDOW



1 **Event output: This is where *SnoopDOS* displays information on what OS functions are being called. The second column shows the task name of the program making the call (and the process number if it is a shell process), the third column the function name, the fourth and fifth columns any parameters passed to the function and the sixth column shows a result – success or failure. A column's width can be resized by dragging its header with the mouse.**

2 **Hide: Close the *SnoopDOS* window. Tracking will continue even when the window is hidden.**

3 **Quit: Exit the program.**

4 **Pause: This pauses the display until you hit this gadget again. No further calls can be made to any of the functions being tracked while SnoopDOS is paused and this in effect pauses programs using these functions.**

5 **Disable: Temporarily turns off function tracking without quitting *SnoopDOS*.**

6 **Open Log: Spools the event output to the file of your choosing.**

7 **Setup: Opens the settings window where you can tweak various cosmetic settings of the *SnoopDOS* program.**

8 **Functions: Opens the functions window where you can choose which system calls and which tasks you want to monitor.**

temporary storage of data. This is called the stack. Typically, the size of the stack is fixed when the program is launched and the degree to which this stack space is used varies as the program runs. Most software on the Amiga does not check whether its stack is full. When this occurs, it will overwrite other memory, possibly corrupting other tasks running on your system and causing a seemingly inexplicable crash.

If a program is run from the Workbench, its stack settings will be obtained from its icon. This can be changed simply with WB's Icon Information requester. If a program is run from the shell or doesn't have an icon, its stack setting will be inherited from its parent task, either the shell itself or Workbench, respectively. Set a shell's stack size with the Stack command. The parent of all application software will be Workbench, so the Workbench's stack size can be deemed to be the system default. Set this by adding a line in your user-startup file, such as:

```
Stack 32768
```

to set the default stack to 32768, or, if you have OS3.5, set it with the Workbench prefs editor.

Finding out how much stack space a program requires is a tricky business, but a program such as *StackSnoop* (on the coverdisc) can help. You can use this to view the current stack usage of any task running on your system. It is usually best to be overgenerous with the amount of stack you allocate. Software ported from UNIX or anything using the IXemul system typically needs masses of stack space. Depending on the app, a setting of 200,000 or more may be required.

It is not strictly legal for a task to muck around with another's stack. So, unless a program can grow its own stack, it's not possible to modify its stack size once it's been launched. Sometimes it is necessary, though. This is because you have no direct control over many system tasks in AmigaOS. For, instance the ramlib task, which performs the loading of shared libraries, is launched before you can interact with AmigaOS. Its default stack setting may cause problems with some third-party libraries such as RTGMaster. Luckily, tools are available to overcome this, such as the *StackAid* package supplied on the coverdisc. Another culprit is the IPrefs task, which handles the notification of preferences changes. Again, *StackAid* can help here. For other purposes the tool *StackAttack* comes in handy, since it can increase the stack size of any arbitrary task running on your system.

> *Although the Amiga is a fully multi-tasking computer, some programs don't actually live well with each other*

THE GURU

Certain types of system error are trapped by AmigaOS. These include CPU exceptions caused by attempts to access illegal memory addresses or execute code which doesn't represent valid instructions, and severe failures by operating system functions. These types of errors were once infamously reported as Guru Meditation codes. A flashing red box would appear on screen with two obscure hexadecimal numbers. Such an alert became known as a Guru.

The first 8-digit number reported by the Guru is an alert code, signifying which part of the OS reported the failure, whether the system can recover from the error or has to reset, and a specific error code. The second number is a memory address of the task which caused the error. While it is possible for the initiated to interpret an alert code, it is dangerous to read too much into it. It's far better just to take it as a sign that something has gone wrong, chill out and meditate.

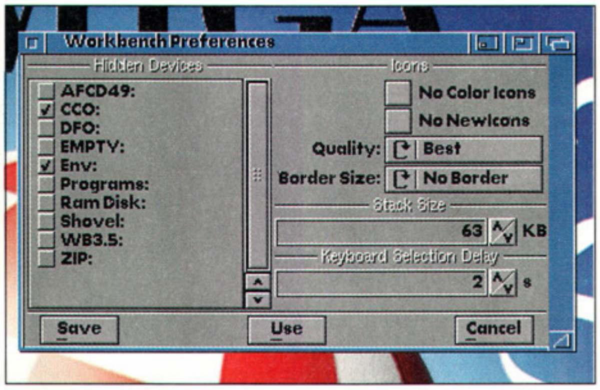
Having said that, it is useful to recognize some codes because they are occur most frequently:

```
80000002    Bus error
80000003    Illegal address access
80000004    Illegal instruction
80000005    Divide by zero
```

These are all CPU exceptions that show something has gone seriously wrong with a program. Software bugs are the most likely cause.

```
8000000B    Line F emulation error
```

This is caused when trying to execute FPU instructions on a processor without an FPU. It can also occur on the 040 and 060 machines if there are problems with 68040.library or 68060.library respectively.



Set the default stack size in OS3.5 with the new Workbench prefs editor.

COMPUTER CONFLICT

At this point, if you have tried everything else, you can reach the conclusion that the program you are trying to run is conflicting with something in your system. Either that or it is bugged.

Perhaps the software is incompatible with your hardware. This is less common in these more enlightened days, but old software and games can be suspect. If you have a high-end processor, such as an 040 or 060, in your machine then it is possible that badly-written software gets confused by your processor's caches. You can switch these off with the disable caches option at the Early Startup Screen. Alternatively, you can issue a `Cpu NOCACHE` command from a shell. You should also be aware that old games may use 68K instructions that are privileged on later processors. Old software may also dislike the AGA chipset in later machines. Try the ECS/OCS emulation from the Early Start Screen or use a Degrader utility.

Although the Amiga is a fully multitasking computer, some programs don't actually live well with each other. When trying new software, run it initially with as few processes sharing your CPU as possible. If you suspect incompatibility, first turn off all commodities and patches you are using and try again. You can then enable them one by one to isolate the source of the conflict. Typically, true commodity software is system-friendly, so should cause no difficulties. But beware of software which performs magic with illegal tricks or patches; tools such as *MCP, FBlit, Birdie, VisualPrefs* and *MagicMenu* may all be vital for bringing your Amiga up-to-date and are in the main well-behaved, but they are known to cause incompatibilities.

If all else fails, you may have to do a minimal boot of your machine. First try disabling the user-startup script. You may do this simply by renaming this file in your S directory of your boot disk and this should have the effect of not starting any third-party software or applications on your system. A more draconian step would be to boot the machine with no startup-sequence at all. This is done by selecting that option from the Early Startup Screen. You can then just select manually which parts of the OS you want to start.

To start mount your CD-ROM drive and launch Workbench all you need to is enter the following lines, pressing return at the end of each line:

```
SetPatch >NIL:
MakeDir RAM:Env
Assign ENV: RAM:Env
Mount CD0:
LoadWB EndCLI >NIL:
```

To save time later you may enter these lines in a text editor, such as the standard Ed, and save them out as a script file which can be called with the Execute command.

A LITTLE HELP

I have covered techniques would should allow you to get the most stubborn piece of software to work on your system. If you still have problems, remember that the Internet is an invaluable resource.

Mailing lists exist to discuss general Amiga issues as well as lists dedicated to most major applications. Other users may have encountered similar difficulties and so be able to point you in the right direction. If all else fails, you can mail the program's author and get the definitive answers.

Richard Drummond

Practical JavaScript

On the CD -In_the_Mag-/JavaScript

As well as working with the content of the current document, you can affect external frames and windows

We have only worked within the context of the current document until now in this series. It is also possible to affect the contents of other documents, such as frames or even windows, and that is what we're going to do this month. The document object refers by default to the current document, whether that is a complete page or an individual frame. The top, parent, frame and window objects let us refer to documents displayed elsewhere in the browser. Rather confusingly, the window object refers to the location of the script calling it, which may be a frame rather than a window.

The less confusing alternative is to use self, which refers to the same thing. Each window has a frames [ ] array, containing the sub-frames of the current document. window.frames.length contains the number of frames and window.frames [0] refers to the first frame. Frames can also be referred to by name, if we have a document containing two frames, called "menu" and "main". We can refer to the menu frame with any of:

```
window.frames [0]¶
self.frames [0]¶
frames [0]¶
window.menu¶
self.menu¶
menu¶
```

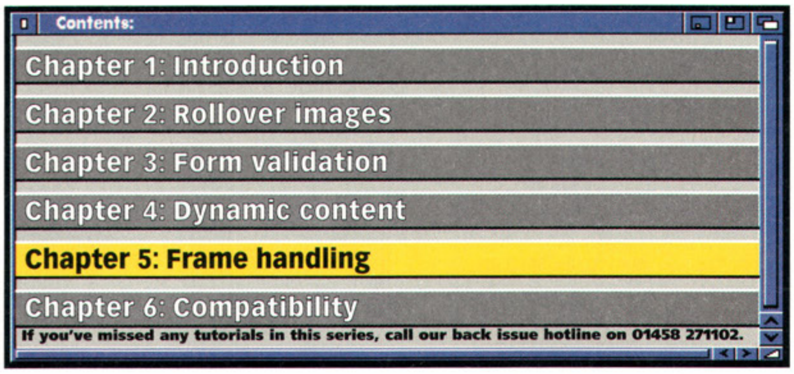
So to get the title of the main frame, we would use main.document.title. Using names rather than array numbers makes it easier to read and makes rearranging the page layout easier too. There are times, however, when you will want to use numbers, such as when working with all frames in a document. This example will force a refresh of all frames:

```
function RefreshFrames()¶
{¶
   for (i = 0; i < frames.length; i++)
frames[i].location.reload(true);¶
}¶
```

Yes, we sneaked in something new there. The location object represents and controls the URL of the window (or frame). You can read the URL with location.href and reload it with location (reload). Adding "true" to the reload call forces a reload even if the version on the server is the same.

MOVING UP THE FRAME HIERARCHY

You may have noticed a flaw in the idea of including this function in the document that defines the frames. Since a frameset contains only frame definitions and no other content, how do we call it? We could call it as an onLoad event, to force a refresh each time the frameset is loaded, or we could call it from within one of the other frames. We could do this with a button or event in the main frame that calls parent.RefreshFrames ( ). The parent object refers to the window that contains the current window object, for a frame this is the frameset. Just as you can nest framesets, you can nest parent calls, parent.parent refers to the next level up. This can get pretty messy. If you want to refer to the top level document, the one



For the purposes of clarity, we've added the ¶ sign in the listings to show where you need to enter a Return.

representing the physical browser window, use top. If the current document is the top

Just as you can nest framesets you can nest parent cells, parent.parent refers to the next level up. This can get pretty messy

level window, top and parent simply refer to the window itself. You can use this to test whether you are in a frame or not with "if (top = = self)". Here's an example that provides a link to escape when the current document is in a frame:

```
<script type="text/javascript"
language="JavaScript">¶
<!–¶
if (top != self)¶
{¶
   document.write('<div
align="center">Stuck in a frame?
');¶
   document.write('<a
href="JavaScript:void
top.location.replace(location.hre
f);">');¶
   document.writeln('Click here
to escape</a>');¶
}¶
// ->¶
</script>¶
```

There are three new things on one line here. The "JavaScript:" part of the URL tells the browser to execute the URL as a script rather than trying to load anything from the server. It's a quick and easy way of running short scripts or calling functions. The "void" operator ensures that the JavaScript returns no result. Otherwise, if the function returned a value, the browser would display it. The function itself uses location twice; the second call uses location.href to get the URL of the current document. This is passed to the first call that uses it to replace the current top level document with location.replace ( ).

You could add this to the bottom of any page that may be linked from outside your site, avoiding problems with framed sites that neglect to add 'target="_top"' to the link. We could take this a stage further and automate the process by setting the onLoad handler of the page to:

```
   onLoad="if (top != self)
top.location.replace(location.hre
f);return true;"¶
```

Another way of handling multiple documents is to use more than one browser window. Most people find this sort of approach awkward to use, and not all browsers support multiple windows. If you must use this approach, you open a new window with the open ( ) method:

```
   NewWindow =
open(URL,name,features)¶
```

where "features" defines which of the standard browser features the window will possess. You can subsequently refer to the contents of this window with NewWindow.document.

One significant disadvantage of this approach is that there is no way to refer to any window that wasn't opened by your script, including the one running the script. So it's probably best to avoid getting involved in this.

TEXT EFFECTS

JavaScript can be used to insert random text or scroll messages. Here's an example:

```
function RandomQuote()¶
{¶
   Quotes = new Array(¶
        "RAM disk is not an installation
procedure.",¶
        "Press any key... no, no, no, NOT THAT
ONE!",¶
        "Excuse me for butting in, but I'm
interrupt-driven."¶
        );¶

   document.write(Quotes[Math.floor(Math.random() *
Quotes.length)]);¶
}¶
```

The function first builds an array containing the various quotes. Notice that the last one does not have a comma. The syntax for creating an array with pre-defined elements is:

```
   ArrayName = new
Array(Element1,Element2,...,LastElement)¶
```

The elements can be any type of data. Here we have three elements, numbered 0 to 2. Math.random returns a number between 0 and 1. Multiplying this by the number of elements in the array gives a number between 0 and 3. Math.floor returns the integer part of this, 0, 1 or 2 in this case. We then use that as the array index. It's important that we use Math.floor to get the integer part of the random number. Math.round will round the number up as well as down, a random number greater than 2.5 would be rounded up to 3, which would produce an error as Quotes [3] is not defined. Adding extra quotes is simply a matter of adding more lines to the array definition. The quote is inserted in the HTML by adding a call to the function at the appropriate place.

A variation on this theme is to insert different text each day:

```
function TipOfTheDay()¶
{¶
   Tips = new Array(¶
        "define array as before"¶
        );¶

   Today = new Date();¶
   document.write(Tips[Today.getDate() %
Tips.length]);¶
}¶
```

This is similar to the random quote function, except that we use the date to pick the array element. To do this, we create a new object of type Date, called Today. We can then apply any of the methods available to the Date object. The getDate ( ) method returns the date of the month, you could also use getDay ( ) to return the day of the week, adding a number between 0 (Sunday) and 6 (Saturday). The % operator performs a modulo division. It ensures that the number used to index the array always refers to an existing element.

SCROLLING MESSAGES

These examples show how you can display different text each time a page is loaded, though once the page is loaded the text stays the same. What about providing continually changing text in the browser page? This is not possible within the context of the main HTML text, at least not with the current Amiga browsers.

There are two places where we can change text after the page has loaded. One is the status bar, which we used previously to display messages with onMouseOver. The other is in a form text gadget. Scrolling text relies on the onTimeout ( ) method. This accepts two arguments, the second is a delay in milliseconds. The first is a command to execute after the delay. onTimeout ( ) exits after executing the command. So it is common for a function to call itself via another onTimeout before it exits. First we create a text box for the function to use:

```
   <form name="ScrollForm">¶
   <input size="50"
Name="ScrollBar">¶
   </form>¶
```

The names and size are important, so if you change them, change the function to match. We start the scrolling with the onLoad handler for the page:

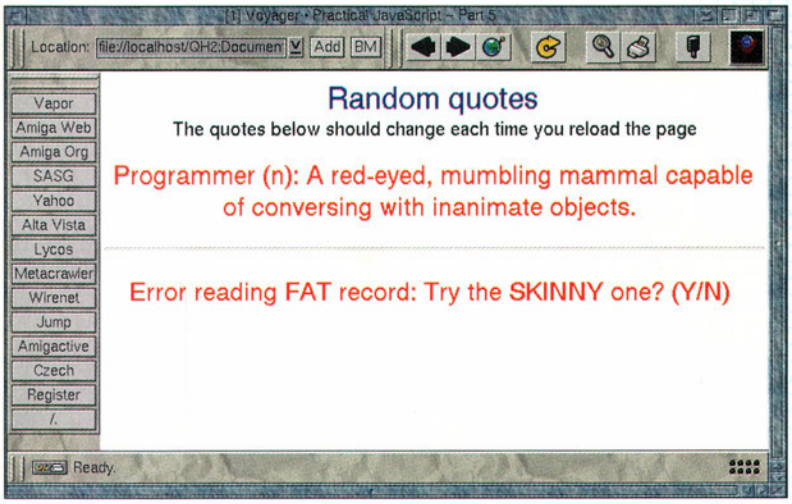
```
<body
onLoad="setTimeout('ScrollText()'
,10);return true;">¶
```

Here is the main function that should be put in the <HEAD> section of the page:

```
<script type="text/javascript"
language="JavaScript">¶
<!- //¶
// Change these variables to
suit¶
Size    = 50; // This must be the
same as the SIZE attribute in the
INPUT definition¶
Delay   = 100;¶
Message = "This is an example of
a ticker-tape banner. The text
scrolls from right to left,
clearing between each message.";¶
// Initialise¶
Spaces = "";¶
for (i = 0; i < Size; i++) Spaces
+= ' ';¶
Message = Spaces + Message +
Spaces;¶
Pos = 0;¶

function ScrollText()¶
{¶

document.ScrollForm.ScrollBar.val
ue = Message.substring(Pos, Pos +
Size);¶
   Pos += 1;¶
   Pos = Pos % (Message.length -
Size)¶
setTimeout('ScrollText();',Delay)
;¶
  }¶
// ->¶
</script>¶
```



The quotes are changed each time the page is loaded, although you'd normally use this to add to a page rather than to be the only reason for a page.

The first part is executed only once, setting the variables containing the message text and other items needed by the function. A variable defined outside of a function is actually a property of the window object, Message is really window.Message. Variables defined within a function are local to that call to the function. Inside a function, when JavaScript interpreter is given the variable xyz it will look for a local variable of that name first and then for window.xyz.

We pad each end of Message with enough spaces to fill the box, so that the box starts empty and clears after each pass of the message. The function is executed repeatedly, with only a 1/10th second pause between, so it's important to reduce the amount of work done here and keep it as short as possible.

The substring method takes two arguments, a start and end position. String.substring (x,y) returns the string starting at character x and ending at y-1. This may seem odd but it has two advantages. It's safe to give string.length as the second argument, even though the last character is string.length-1. Secondly, y-x is the length of the substring. The next line increments the Pos variable, so that the message is displayed one place to the left next time. Then we make sure that Pos doesn't get too large before calling the function again via setTimeout ( ).

The script can be modified to display the message in the browser's status bar instead. To do this, replace the first line of the function with:

```
   window.status =
Message.substring(Pos,
Message.length);¶
```

and increase the Size variable to a suitable value. That can be a bit tricky as you don't know how wide the user's status bar is, either in pixels or characters.

Neil Bothwick

Useful ARexx

Nick Veitch investigates the new ARexx commands available under OS3.5, and comes up with a few surprises

Finally, someone, somewhere, in some incarnation of Amiga ownership, finally decided to give Workbench what it's been painfully missing almost since birth – an Arexx port. What does this mean for us? Well, for me it means that I get to spend a couple of months explaining to you how to use it. For you, it means more power and control than ever before over your Amiga and the way it works.

The new port for Workbench has meant some new commands are now available in ARexx. You can use these commands whenever you open the Workbench port. Just as we discussed before when dealing with commands for other software, you must open the port first, before any of the commands will be understood. As before, we do this with the ADDRESS <portname> command. Cunningly, the Workbench portname is called simply "Workbench".

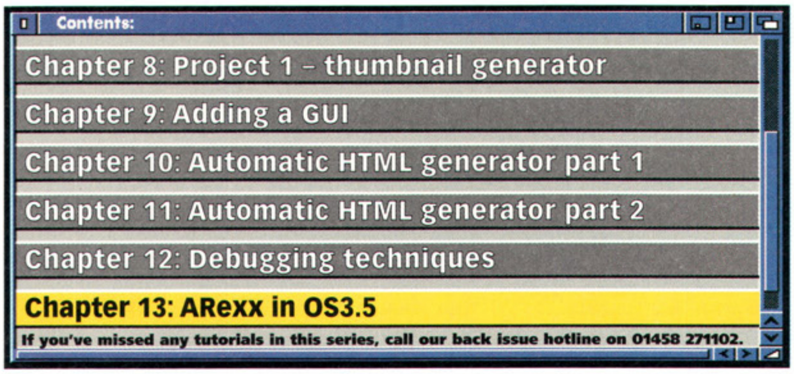
There are 22 commands which you will be able to use, to change all sorts of things from the size and position of windows to the contents of menus

There are 22 commands which you will be able to use, to change all sorts of things from the size and position of windows to the contents of menus. You will even be able to read and manipulate individual files.

Chapter 8 of the OS3.5 ARexx documentation describes the new commands in detail, but it is a bit skimpy on the examples, and the documentation is in parts just plain wrong – as you might have noticed from the boxout on this page! So, we'll be going through the use of the commands, and hopefully building one or two useful scripts along the way.

One word of warning though: be careful of your variable names. The Workbench port oddly uses stemmed (compound) variable names as definitions of attributes – for example: window.screen.height. This means that if your program uses a variable called window, screen, or height, you are not going to be able to use many of the Workbench commands reliably. This is a bit annoying, because there are loads of variable names you cannot use depending on the Workbench Arexx commands you might want to employ in your script. The list includes some of my personal favourites like; top, left, width, height, type, status, icons and count (!!!). One way around this inconvenience would be to only address the ARexx port through functions defined in your script. These use local variables, so there would be no conflict with the rest of your program, but it is a hassle shuttling variables to and fro to functions. It seems we are just going to have to get by without useful variable names such as 'count', though I don't know how I'll manage.

For clarity, we've added the ¶ sign in the listings to show where you need to enter a Return.

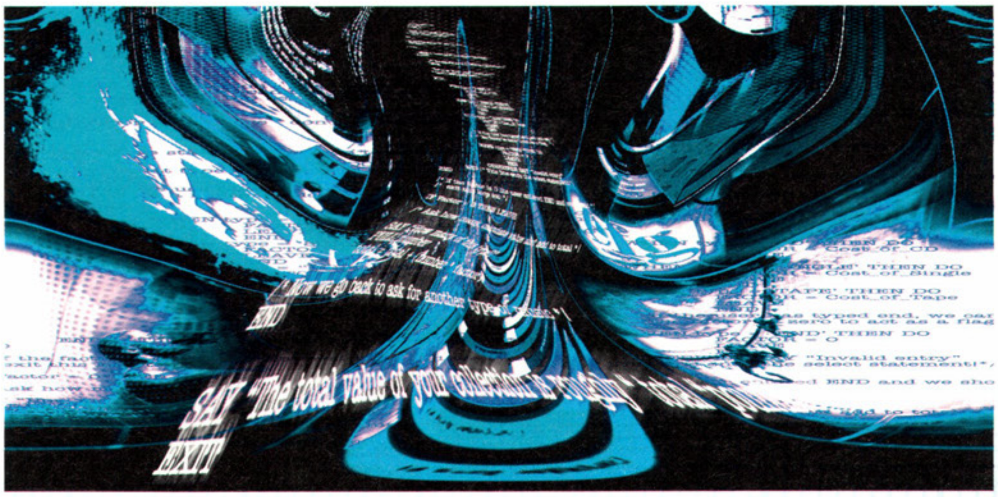


WINDOWS

One thing we should get straight right from the beginning is the type of windows you can manipulate with the Arexx commands for the Workbench port: you can only move windows which relate to what the documentation terms as 'qualified pathnames'. This means that you are pretty much limited to controlling Windows relating to your drives, like "Work:", "REXX:" and so on. Also, the Windows are referred to by their full path. The window you see on screen might be titled "Software", but to reference it through the Arexx port you will have to use the full pathname "WORK:software" or whatever. There are two major exceptions to this. The first is 'root'. This is used to refer to the main Workbench window, and you can use it instead of a windowname to manipulate the main window (although some of the commands won't have much effect).The second exception is 'active', which simply refers to the active window at the time, whatever it may be. Note that this may give unexpected results if there doesn't happen to be an active window, or if the active window is not of a type that the Workbench Arexx port can manipulate – a Shell window, for example.

GETATTR

One of the most important commands you'll find in the Workbench port is GETATTR, mainly because someone decided to create one hugely complicated command that did just about everything! Because of the things it has to do, usage can get a bit complicated, but it can also be used in simple ways: GETATTR window.screen.name NAME "work:" VAR screenname would place the name of the screen which the Work: window was opened on into the variable



screenname. The first term after the command is the Object name, that is, the thing you are trying to get information on. There are literally dozens of object names for all sorts of things you might want to query. We'll cover them in more detail next issue, but you could check through the documentation now if you like, it's all on the OS3.5 CD.

That's about all there is for this month. I was hoping to have written a quite useful script for this issue, but it took a long time to find out that what I was trying to do wouldn't work because of the bugs I mentioned on this page. In the meantime, if you have any ideas for useful Workbench scripts you'd like to see, please send them in to the usual address!



BUG WARNING!

There are two commands for the Workbench port, MOVEWINDOW and SIZEWINDOW, for which the manual documentation is currently wrong. These

> *It took a long time to find out that what I was trying to do wouldn't work because of the bugs I mentioned on this page*

commands are both similar in usage:

```
MOVEWINDOW WINDOW <name> LEFTEDGE
<number> TOPEDGE <number>¶
SIZEWINDOW WINDOW <name> WIDTH
<number> HEIGHT <number>¶
```

Name is the name of the window, and I'm sure you can work out the rest. The documentation leads you to believe that these functions use absolute values. For example:

```
SIZEWINDOW WINDOW 'work:' WIDTH
100 HEIGHT 50¶
```

should resize the Work: window to be 100 by 50. But it doesn't. This particular command will make the window 100 pixels wider and 50 taller (in other words, it works relatively). If you want to make the window smaller, you are a bit stuffed, because the commands will not accept negative entries. There is a way though: kindly Richard Drummond pointed out to me that it might work using a two's complement, and indeed it does. The numbers work on a 16-bit system, the most significant bit being used as a sign. So, to get -10, you just subtract 10 from 65536.

```
SIZEWINDOW WINDOW 'Work:' WIDTH
65526 HEIGHT 65511¶
```

will make the window ten pixels narrower and fifteen shorter. This is a bit convoluted, and of course, you have to make sure the window is big enough in the first place, never mind work out the difference in relative terms, make a twos-complement and so on.

Fortunately for you, I have written a function which adapts to take care of this problem. I have called it ABSMOVEWINDOW, and you can simply add it to the end of your programs for the moment, and call it like you would any other function. As it is a function using local variables, it shouldn't conflict with anything else. The alternative is to use the CHANGEWINDOW command, which changes both position and size simultaneously. The disadvantage is that you have to specify all the parameters – width, height, leftedge and topedge – which might not be convenient (i.e. if you wanted to change the windows position but didn't care how big it was, you'd still have to find out how big it was and plug these values back into the CHANGEWINDOW command).

```
ABSMOVEWINDOW:¶
PARSE ARG windowname LEFTEDGE x
TOPEDGE y¶
ADDRESS WORKBENCH¶
GETATTR window.left NAME
windowname VAR l¶
GETATTR window.top NAME
windowname VAR t¶
newl = x-l¶
newt = y-t¶
IF (newl<0) THEN newl =
newl+65536¶
IF (newt<0) THEN newt =
newt+65536¶
MOVEWINDOW WINDOW windowname
LEFTEDGE newl TOPEDGE newt¶
RETURN¶

ABSSIZEWINDOW:¶
PARSE ARG windowname WIDE x HIGH
y¶
ADDRESS WORKBENCH¶
GETATTR window.left NAME
windowname VAR w¶
GETATTR window.top NAME
windowname VAR h¶
neww = x-w¶
newh = y-h¶
IF (neww<0) THEN neww =
neww+65536¶
IF (newh<0) THEN newh =
newh+65536¶
MOVEWINDOW WINDOW windowname
LEFTEDGE newl TOPEDGE newt¶
RETURN¶
```

Then you'll be all right.

Nick Veitch

THE KEYBOARD COMMAND IN DETAIL

The KEYBOARD command is a simple way of setting up hot keys to run ARexx scripts. Sure, you could use a commodity to setup such hotkeys for you, but this is very straightforward, and gives you the ability to define the keys from within your own program. And here is how it works:

```
KEYBOARD ADD | REMOVE [NAME] <name for
hotkey> [KEY <key combination>] [CMD
<Arexx command>]¶
```

The bits in [square brackets] are optional, < indicates a string or variable > and the bar | is either/or. All the hotkeys must be named, so you can easily manage them, but what you actually call them is not important. ADD is used to add a hotkey, and REMOVE to remove it. The KEY accepts a string with the standard format for specifying keys and modifiers, like the FKey commodity. For example 'h', 'Alt z', 'f1', 'Ctrl 0' are all acceptable. The Arexx command can actually be just that: a string containing a command. It is more likely that you will want to specify a script though, in which case you merely have to type in the name. ARexx will then search your REXX: path for a file of that name with a .wb or .rexx extension.

Here are some examples:

```
KEYBOARD ADD NAME 'test' KEY 'f1' CMD
'test'¶

Will run REXX:test.wb when F1 key is
pressed¶

KEYBOARD ADD NAME 'hello' KEY 'Help' CMD
'SAY "No Help here!"'¶
```

Will annoyingly open a console window and show a silly message when you press the Help key

KEYBOARD REMOVE NAME 'hello'
Will remove the useless hotkey assigned above!

Program Perfection

On the CD -In_the_Mag-/Program_Perfection

Copying and pasting with the system clipboard and more on BOOPSI in our ongoing project.

A feature missing from the majority of Amiga text viewers is the ability to select text via mouse-dragging and copy it to the system clipboard, a feature familiar from word processors and text editors. Needless to say this is a feature we wish AFMore to possess and indeed was one of the justifications for choosing this project in the first place.

You'll have to bear with me because I have failed to catch up with myself in the actual coding of AFMore – a fact that will probably not surprise you if you've been following this series. I haven't actually started writing any of the modules associated with this chapter, though I have done a good deal of planning. Really, I have.

PASS THE SCISSORS

The Amiga's system clipboard is a mechanism whereby programs can share any kind of data – text, pictures, sound, or whatever. All data exchanged with the clipboard must be in the IFF format (see the box "All about IFF"). This permits programs

> **We would have to wrap up any data we wished to send to the clipboard in the appropriate chunk formats – all this is just far too much work**

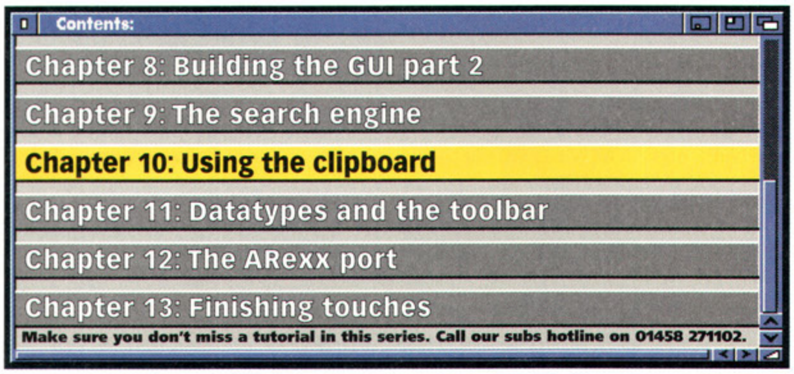
to identify the type of data stored there.

The clipboard is implemented as a standard Exec device that supports 256 units, each in effect a separate clipboard. Unit 0 is the so-called primary unit and is the one generally used for exchanging data between programs. AFMore will use unit 0 by default, but the startup parameter CLIPUNIT, if present, will be used to determine which unit to paste to. (I'm also toying with the idea of adding a select clip unit function, possibly via a requester. I'm currently in two minds of how useful that would be.)

Since the clipboard is a Exec device, it would be perfectly feasible to simply use exec.library routines to open, close and do raw reads and writes to the clipboard device. But this would be making life unnecessarily complicated.

Because any data stored in the clipboard is an IFF, it requires parsing before we can import it into our program.

For clarity, we've added the ¶ sign in the listings to show where you need to enter a Return.



We would have to manually sift through the IFF headers, skipping over chunks we were not interested in and reading those that we were interested in. We would have to take into account the possibility that FORMs had been nested inside one another and properly handle CATs and LISTs. Likewise, but less difficult, we would have wrap up any data we wished to send to the clipboard in the appropriate chunk formats – all this is just far too much work.

An easier and more elegant approach is to make use of iffparse.library. This is a shared library that has been part of AmigaOS since OS2.04 and it provides functions to remove the tedium from dealing with IFF streams. A stream on this occasion can be an AmigaDOS file, the standard clipboard device or, with some custom support functions, any arbitrary Exec device.

The library even provides us with routines to open and close the clipboard. In this way, we don't have to muck about with IO requests and such like.

When we open a stream for reading, we need to parse the IFF object it represents. Depending on our application, we might wish to skip over certain chunk types and extract information from others. In this case, we only wish to know about CHRS chunks embedded in FTXT FORMs. The parsing facilities offered by iffparse.library are really quite sophisticated, but here we don't need to get too complex. We simply tell the library which chunks we are interested in with the StopChunk() function and then loop, repeatedly calling ParseIFF(). When ParseIFF() returns control to our program, it has either found one of the chunks we are looking for, we've reached the end of the stream, or an error has occurred.

If ParseIFF() finds a chunk we want, we can then perform whatever processing we need before starting the loop again. The



CurrentChunk() function returns information on the chunk that was found, such as its type, size and position within the stream. ReadChunkBytes() can be used to read the current chunk's data into a buffer.

Writing to an IFF stream is even easier. We simply use the PushChunk() function whenever we wish to start a new chunk, passing the FORM type, chunk ID and optionally the size of the chunk's data as arguments. We then write our data with WriteChunkBytes() and finish the chunk with PopChunk(). Calls to PushChunk() nest to permit the embedding of one chunk within another.

NUTS AND BOLTS

So much for the theory – the plan is to package up the code which handles the clipboard in a module called, unsurprisingly, Clipboard. This will permit reading of formatted text from a specified clipboard unit via ReadText() and writing via WriteText(). The ReadText() call will allocate a buffer large enough to contain the characters read from the clipboard. To add flexibility, a pointer to an initialized ClipText structure is passed to ReadText() and modified by that function.

```
struct ClipText¶
{¶
    STRPTR  String;¶
    ULONG   Len;¶
    APTR    (*Alloc)( ULONG size
);¶
    VOID    (*Free) ( APTR mem,
ULONG size );¶
};¶
```

Alloc is a pointer to a function which is used to allocate the buffer required by ReadText(); Free is a pointer to a function to deallocate it. Supplying NULL for these means that the basic AllocMem()/FreeMem() pair should be used. All of this adds complexity, but it reduces coupling and hence makes the Clipboard module more widely applicable. ReadText() uses the function referenced by Alloc to create the buffer and stores a pointer to it in String. When we are finished with the clipped text we can bin it ourselves by calling the function pointed to by Free. This can be done from any context.

We have taken special pains to make the Clipboard modules as general as possible. The function provided by this module is likely to be required in a large variety of projects. The more general the interface, the more likely we will be able to re-use the module without modification.

BEING ACTIVE

The other side of supporting the pasting of text to the clipboard is that we need a means for the user to select text. As I said above, this will be a standard left-drag operation on the desired portion of text displayed within the TextView gadget, the BOOPSI class which takes care of rendering and scrolling text within the main window. The mechanics of all this will be handled by the TextView gadget itself.

All about IFF

IFF (Interchange File Format) is an open-ended file format for the exchange of any kind of data. Whatever type of data an IFF contains it has a common structure.

Information is grouped within an IFF file in chunks. Each chunk is prefixed with a four-letter identifier denoting its type and the length of the data stored within the chunk. In C we could represent this as

```
typedef struct {¶
    ID      ckID;¶
    LONG    ckSize;  /* sizeof(ckData) */¶
    UBYTE   ckData[];¶
} Chunk;¶

Chunks may be nested.¶
```

Chunks representing a single self-contained data object, such as a picture or document, are grouped together within a FORM chunk. A FORM chunk will have a FORM type specifying the kind of data object it contains. Types include ILBM (InterLeaved BitMap), 8SVX (8-bit Sample Sound Voice) and SMUS (Simple Musical Score).

As an example, an ILBM FORM will typically have a BMHD chunk which describes the size, depth, aspect ratio and compression type of the picture; a CAMG chunk containing the picture's screenmode; a CMAP chunk containing its palette; and a BODY chunk containing the (compressed) pixel data. Some chunks may apply to any FORM type, for example, an AUTH chunk identifies the creator of the object, while an FVER chunk contains an AmigaOS version string.

IFF files may additionally be made up of composite data objects. A CAT chunk contains objects of arbitrary types, whereas a LIST chunk contains objects of a specific type.

Now, remember back to *AF* 131 when we discussed the methods accepted by BOOPSI gadgets. When a user clicks anywhere inside a gadget's bounds, Intuition sends it the GM_HITTEST method. If the gadget has a non-rectangular shape, it can perform some processing to decide whether the hit was actually inside the gadget. Either way, if the gadget was hit, the method should return true.

So much for the theory – the plan is to package up the code which handles the clipboard in a module called, unsurprisingly, Clipboard

Gadgets which respond positively to GM_HITTEST then get sent a GM_GOACTIVE method to ask whether they wish to become active. Only one gadget may be active at a time and the active gadget is the one that receives input events – mouse clicks, key presses, timer events – from Intuition. Many gadgets do not need to become active, but our TextView gadget does. A left-click with the mouse is a sign that the user is beginning a drag operation and we want to know about it.

Input events are sent to a BOOPSI gadget via the GM_HANDLEINPUT method and each event has a corresponding mouse position attached to it. The start position of a select operation is the original position at which the gadget was hit. While we keep receiving events signalling that the left mouse button is pressed, we store the current mouse position as the end point of the select and highlight all text between the two. When the user lets go of the button, the end point is accepted. If the start and end points are the same, no text has been selected and we turn off highlighting.

To be able to manipulate the selected text, we have to know how mouse positions map onto position within the text file stored in memory. That is: how does the pixel position of the mouse pointer correspond to a row and column position within the file. Well, this is just a matter of arithmetic, but it is rather involved – we have to take into account what portion of the text is visible, the font size, the tab size, and so on – so I'll leave this until next time.

Richard Drummond

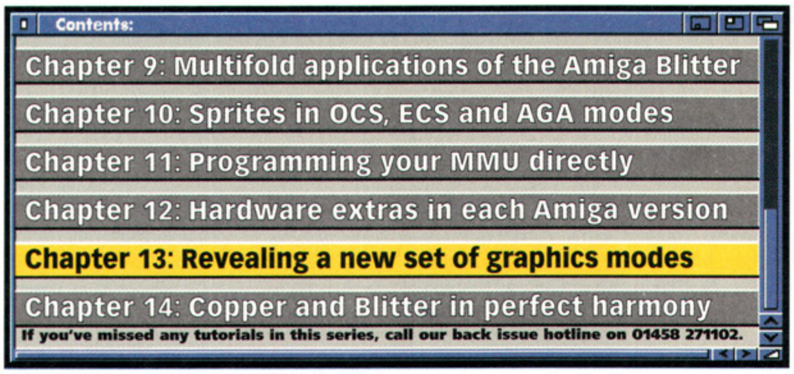
IFF TEXT

The FORM FTXT represent a stream of text with optional formatting information. Text is stored in a number of CHRS chunks using the 8-bit ANSI character set. Control character and control sequences are allowed. These CHRS chunks may be interspersed with optional chunks of formatting information. For example, a FONT chunk will describe a typeface to be used in the following CHRS chunks. Although there may be more than one CHRS chunk within a FORM FTXT, they are all taken to be a single stream of text. An FTXT chunk may additionally contain further nested FORMs, LISTs or CATs.

Banging the Metal

On the CD -In_the_Mag-/Banging_The_Metal

We combine techniques uncovered in our custom chip exploration to create custom graphics modes



Our tour of the custom chips is complete, and it's time to show how they fit together. The last two parts of this series demonstrate useful routines that use the Copper to program the Blitter to program the Copper to program the Blitter! The result is a neat demonstration of the potential of metal-bashing.

You get a host of new Amiga video modes, on classic lines, guaranteed flicker-free with zero CPU overhead.

The demonstration routines show how the Amiga custom chips can perfectly simulate hardware that was built into old computers, including arcade machines, terminals and home micros. A custom copper list triggers 100,000 or more graphic operations every second.

You can animate the whole screen at 50 or 60 Hertz with hardly any effort from the main processor.

The techniques are at least as useful as the result. Rather than write out a Copper list, potentially 40K or more in length, for each new video mode, the program builds a custom mode to suit your requirement.

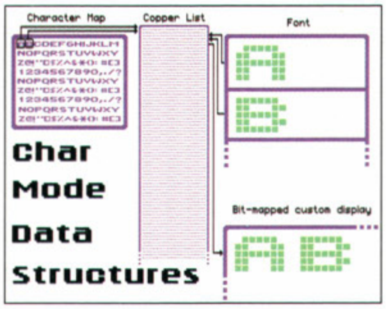
CHARACTER MAPS

In the days before bit-mapped graphics, when processor time was scarce, displays were built up from a grid of characters. A byte in memory determined the character displayed in a particular location. Most terminals, including Viewdata travel systems, still work that way. The codes are normally ASCII (except on Pet, TRS-80, and the first ZX systems) so programs can copy text directly to display memory, and the characters appear at once; there's no need to plot them one dot at a time which would have been painfully slow on early micros, or when emulating alien code now.

There's nothing to stop the 'characters' being graphical symbols – indeed that's the key to the animation in early arcade games like *Space Invaders* or *Lunar Rescue*. You can even simulate the striped colour overlay in those games with palette-tweaking Copper instructions. Again, Amiga software perfectly emulates custom hardware!

Later eight-bit systems like the C64, Atari, MSX, Einstein and Memotech extended this idea by moving the character patterns from ROM to RAM that the processor could access.

A change in those patterns 'instantly' updates all corresponding characters on the screen. This is great for background patterns and effects like waves in the sea, where a few pokes can animate the entire background. It's hard work to emulate this entirely in software, but trivial in our custom modes, as their fonts work in exactly the same way.



Character codes select font patterns for corresponding display positions.

The Amiga and Mac were among the first computers to switch to purely bit-mapped displays. To this day, PCs still have character-mapped modes, which explains the blurringly-fast scrolling in MS-DOS and Linux shell windows on IBM-compatibles.

This hack shows that the Amiga hardware is so flexible that it can pull off the same tricks, with nothing but a BASIC program to set it going.

COPPER COMPILER

Rather than simulate a single layout – say, 24 lines of 40 characters for Apple II or MSX text, 80 by 24 for CP/M, or 64 by 16 for TRS-80 displays – I've written a Copper List Compiler. This generates a centred display in LowRes or HiRes, depending on the required layout, and supports characters from 8 to 16 pixels high.

The listing shows how the mode is set up. Next month I'll explain the compiler and the code it generates. There's a complete example Copper List for a 32 by 24 character mode on AFCD50. This is annotated output from the Copper List disassembler introduced in part 5.

The SuperBASIC procedures MOVE, WAIT and SKIP generate corresponding Copper instructions, so you can read the Copper List directly from the BASIC program. Symbolic variable names make the code easier to read and allow conditional code generation.

Each MOVE updates 16 bits, so it's convenient that the font, characters and copper list all start in the same 64K

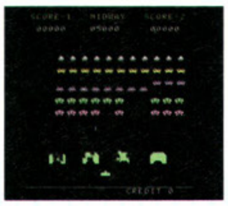
Example Listing 1 - Copper Codegen procedures

```
DEFine PROCedure MOVE(value%,reg%)
POKE_W copper,reg%
POKE_W copper+2,value%
copper=copper+4
END DEFine MOVE

DEFine PROCedure WAIT(x%,y%)
POKE_W copper,(y% && 255)*256+(x% && 254)+1
POKE_W copper+2,32766 :REMark Blitter wait
copper=copper+4
END DEFine WAIT

DEFine PROCedure SKIP(x%,y%)
POKE_W copper,(y% && 255)*256+(x% && 254)+1
POKE_W copper+2,32767 :REMark Blitter skip
copper=copper+4
END DEFine SKIP

"These procedures let you write a Copper List
directly into a SuperBASIC program"
```



Space Invaders made pioneering use of character-mapped graphics.



Lunar Rescue combined adjacent characters for bigger graphics.



Press F1 with the floppy in drive 0 to start Amiga Qdos and the CharMode demo.

'segment' of chip memory. The most significant bits of the custom chip register all point to this segment, and we only need to change the low 16 bits to specify any address therein.

The first 8K is allocated to the character patterns, or 'fount' in Qdos parlance. After this, space is allocated for the screen bit-plane – the place where the Blitter puts the character patterns, and from whence Amiga DMA reads the bit-mapped display. The Character Map follows, with one byte per character code, then the custom Copper List.

Example Listing 2 - Custom Screen setup

```
MOVE #page TO BLTAPTH :REMark All blitter data
starts in this page
MOVE #page TO BLTBPTH : MOVE #page TO BLTDPT
MOVE #page TO BPL1PTH :REM Base page address of
bitplane
MOVE #8192 TO BPL1PTL :REMark offset of bitplane
in page
MOVE #0 TO BPLCON3 :REMark No special AGA tricks
needed
MOVE #0 TO COLOUR0 :REMark Black background
MOVE #HEX("0CC5") TO COLOUR1 : REMark Bright
yellow foreground
MOVE #top_line%*256+left_edge% TO DIWSTART
:REMark True left limit
MOVE #left_edge% DIV 2 TO DDFSTART :REMark
Hardware stop is at 18
IF CharColumns%>40
  MOVE #HEX("9200") TO BPLCON0 :REMark Hires
Colour, 1 bitplane
  MOVE
#(top_line%+lines%)*256+left_edge%+width%*4+8 TO
DIWSTOP
  MOVE #(left_edge% DIV 2)+4*(width% DIV 2)-8 TO
DDFSTOP
ELSE
  MOVE #HEX("1200") TO BPLCON0 :REMark LowRes
Colour, one plane
  MOVE
#(top_line%+lines%)*256+left_edge%+width%*8+16
TO DIWSTOP
  MOVE #(left_edge% DIV 2)+4*width%-8 TO DDFSTOP
:REMark Limit 204
END IF
MOVE #HEX("2100") TO DIWHIGH  :REMark Set H8 and
V8 (ECS extras)
MOVE #0 TO BPL1MOD : MAKE_COPPER_BLITS : WAIT
255,255
```

"BASIC to set up custom video modes, extracted from CharMode_BAS on AFCD50"

The Copper list does four things. It sets up a custom bit plane display centred on the PAL screen. This is in LowRes or HiRes mode depending on the number of character columns. Next it can expand an 8-bit wide character font into 16-bit format for blitting.

After converting a table of eight bit character codes into pattern blit instructions, it generates the new display by blitting one pattern for each character code into the display. Each blitter transfer merges two lines of eight bits into a 16-bit word from the font locations corresponding to odd and even character codes. Each complete blit copies all the horizontal lines that make up two characters. All this happens 50 times per second, just ahead of the display's scanning beam, so updates appear instantaneous and flicker-free.

The diagram shows how a table of character codes, on the left, is indexed into the font, giving patterns for the display. As soon as you change the codes or the font patterns, the display changes to match.

NEXT MONTH

Next month I'll explain the Copper Compiler, MAKE_COPPER_BLITS, and how to customise the new modes.

There are copious further notes and programs on our CD.

Simon Goodwin

RUNNING THE DEMO

The Copper List compiler is written in SuperBASIC, to run under Amiga Qdos. This makes it easy to take over the entire system, and provides plenty of free programming tools. Everything you need to test and tweak the new modes is on AFCD50, including program notes, sample fonts and copper disassemblies, tested on everything from an old A500 to a 75 MHz 68060 with AGA.

Before running the compiler you need to make a Qdos boot disk, with the program, data and PD extensions on it. Mount the QL file system (QL0:, or FD0: if you prefer the multi-format XFS), put an empty DD disk in DF0:, then click on the 'MakeDemo' icon. This formats the 720K Qdos disk and copies the required files there.

Leave the disk in the drive, and start the emulator by clicking on MakeAssigns in the Amiga Qdos drawer, then Qdos_UK. The emulator displaces AmigaOS and links its own system 'ROMs', as shown, then waits for you to press F1 or F2. Press F1, leaving the Qdos floppy in drive 0. The BOOT file runs automatically.

If you forget the disk and end up in the command line, with a flashing cursor, the command LRUN FLP1_BOOT will start things manually.

The toolkits sign on, followed by a short delay while the compiler is loaded and tokenised. Once it starts, messages will appear at the bottom of the screen as the copper list is assembled in Chip RAM. Use the Chip ONLY startup icon in the Custom_UK drawer if Qdos is relocated entirely to fast RAM on your system; this averts any 'Chip RAM not found' messages.

Press any key to return to SuperBASIC while the custom mode is displayed. Type SEE to momentarily switch back to the custom screen. QL_ON and CUSTOM_ON switch the Copper and Blitter between the Qdos system and character-mapped displays. Fast machines use the CPU for Qdos screen updates unless you type ACE_OFF: BLIT_ON.

GO-FASTER STRIPES

Amiga Qdos comes with SuperBASIC documentation, but all you need to know to make your own custom mode is how to edit the relevant lines. Line 230 sets the number of lines and columns of characters. To change this, enter EDIT 230 and move the cursor with the horizontal arrows, then DEL and insert digits to change the values. Line 220 sets the pixel height of characters – stick with eight if you want automatic font unpacking – and line 260 controls ShowTime, which puts up optional copper stripes to show what the blitter is doing as the display is generated.

Green and Blue stripes indicate when the characters are being extracted from the Character Map and packed into the Copper List. This is done in two passes, in ascending and descending mode, for odd and even characters respectively. Red and purple stripes show the two passes when the blitter is unpacking the font from 8-bit bytes to 16-bit words. These stages are optional, and delay the start of the custom mode display.

A standard Amiga bitmap slice is displayed above the custom mode. You could display titles, buttons or emulator status in this area.

If the BlitFount or BlitChars flags are clear, character blitting starts higher up, but the font and character map are not automatically unpacked. The demo clears these flags if you've requested a lot of characters, to leave more time to blit them.

You can still update the font on the fly by writing whole words, with the pattern in the first byte and the second byte zero. To change the character at a given location you write its font offset into the Copper list. Each sequence of MOVEs and WAIT blits two characters from the font into adjacent columns, reading from Blitter channels A and B and writing to channel D.

ShowTime paints the background dark blue while the character patterns are blitted, and black for the remainder of the field. If the black starts before the last line you can be sure that the update will be flicker-free, as the blitter is always ahead of the beam.





MailBag

Send your letters to: **Letters To The Editor • Amiga Format • 30 Monmouth Street • Bath • Somerset • BA1 2BW** or email: amformat@futurenet.co.uk – putting 'Mailbag' in the subject line.

✔ SEND US	SPARE US ✘
Pictures, designs, photographs	Long, looong letters with numerous points
Your homebuilt Amiga projects	Keep it concise!
News about Amigas in use in the real world	Attachments that we can't read like rtfs
Views about the mag	Illegible handwriting
Ideas for future issues	Questions asking why Amiga haven't brought out the MCC yet
General questions you want answered (not technical ones!)	Technical questions which should be addressed to Workbench

NO SOFTWARE SUPPORT?

When my subscriber's copy arrived this morning (as I usually do) I put *AF* CD48 in my CD player. As I always do, I read Ben Speaks first, followed by Richard's bit.

The 6000 OS3.5s you refer to were, I would place money on it, bought almost exclusively by people like myself with upmarket migs already running on 3.1 ROMs. These are surely the people to whom it was addressed, not the people with 'Vanilla' 1200's. These are the ones you have to interest if the Amiga market is to survive as an entity. Though you made a big thing about Pirates (with which I heartily agree) I couldn't disagree more with your conclusions about the Software market.

Since I bought my PPC/BVision there has been virtually nothing developed to run on it. OK, along with most others, I have updated *DOpus, TurboPrint, ScanQuix* and *MakeCD* as the new ones became available. I don't count any of these as 'software' in the strictest sense of the word; they are all 'Utilities' or utilitarian in their usage and are a must for any high end user. But where are the new word processors, for instance?

Wordworth is a necessary evil as far as I'm concerned, and now it isn't even supported any more, bad as it is. Why would I buy *Voyager* in beta when I already have *IBrowse* at 2.1 and *AWeb* at 3.3 both registered? You already know I don't play games, so the amount of coverage for upcoming games is for me a waste of space, and I certainly wouldn't buy any games.



afb – it's not that off-topic, honest.

Surely the Amiga, as a computer, has outgrown games anyway?

I have updated my hardware because, to be honest, the CDs I bought originally from someone in the Amiga market weren't up to the job any more. So I (in my opinion not unreasonably) replaced both of them – my hard drives and new CD-R/W from PC sources at vast savings. I paid less for my new 4.3G hard drive than one guy I know did for a 2.5" tiddler from an Amiga dealer. They can't complain that people don't support them if they are ripoff merchants can they?

One final comment: I unsubscribed myself from AFB because I couldn't stand the rubbish that was posted, nor the endless discussions generated by people at uni (presumably in positions where they are employed to work with PCs) about the merits or otherwise of PCs versus Amigas.

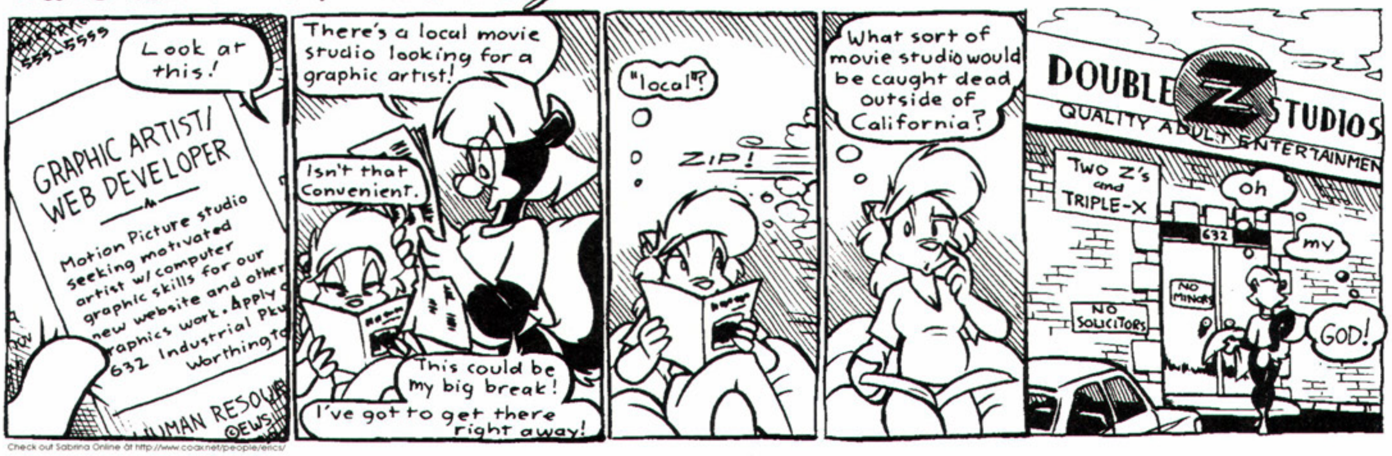
I was pleased to see that you told them to stop as the list is supposed to be for people with Amigas to discuss their problems and get help and to desist forthwith, but I equally noticed they studiously ignored your request! If you eventually become a real tyrant like Matt B was on the old CU-list and stop all the crud, who knows, I might even rejoin. And wouldn't that be nice for you?

I suppose to end I have to say I don't think much of your taste in music; I wouldn't give that guy £50 for such a dirge, however clever it is technically !

And, pretty please, I am allowed to write one letter criticising aren't I?

Ian Aisbitt
iana@messages.co.uk

Sabrina Online by Eric W. Schwartz ©1999 "A very scary new beginning"



Check out Sabrina Online at http://www.coaxnet/people/erics/

STOP THE PIRACY!

It saddens me to see that many idiots are still pirating software and making it impossible for software companies to gain their right to their fortune! The worst thing is that piracy could kill the Amiga platform, especially considering the fact that the Amiga is an outsider in the computing world. But the only thing that could really kill the Amiga is piracy! We must stop it!

Since I am a true, loyal fan of the Amiga, I will do whatever I can to help save the Amiga to become killed by piracy! If I happen to find out who is pirating and buying pirated software, I will get your names, address, telephone numbers, emails and whatever and send them to Amiga Format so that they can call the police or whoever represents the law, and the law will put you pirates in jail and even break down your terminals.

I will even try to find out about one of the mentioned Pirate Bulletin Boards in *Amiga Format* and give *AF* a message about it. Believe me! Piracy is a sick business and pirates have no right to be part of the computer world, not to mention the Amiga community.

My last word is this: I am never going to buy any pirated software. I want the Amiga to survive and the only way to do it is to help the developers gain their right to earn money. If you guys are interested in saving the Amiga and want it to become the best platform again then let's stick together against piracy.

Helge Kvalheim, Norway

I just wish that everyone with an Amiga had the same attitude as you Helge!

Yes, Ian, you are allowed to occasionally criticise, I suppose. After all, your "loyalty" to the Amiga market is definitely not in question. As for your various points:
1. Just because things are more expensive in the Amiga market doesn't necessarily mean that the dealers are always rip-off merchants; they sell fewer hard drives, so the hard drives cost them more ,so they have to pass that on to the customers.
2. Your software support argument is valid, but it's hard to justify further development if no-one buys your software. Like the hardware situation, it's chicken and egg.
3. afb is now fairly on-topic, as far as computing goes. There is still some discussion about other platforms, and there's always discussion about other topics, including the price of minidiscs, the occasional bit of movie trivia and so on, but I asked the list what they thought of it, and most were agreed that the mix was about right – they didn't want a dry technical list.

ALLEGRO DONGLE

I am sitting here reading issue 130 (missed it at the news stand, picked it up today at Software Hut's open house) and was excited to see the review of *AllegroCDFS*. Saw this in Power Computing's ad and was just waiting to hear the real scoop on it. It turns out I require either a Powerflyer or Elbox IDE adaptor to be capable of using this filesystem, even though it claims to support SCSI DVD drives. Uhm, huh?!

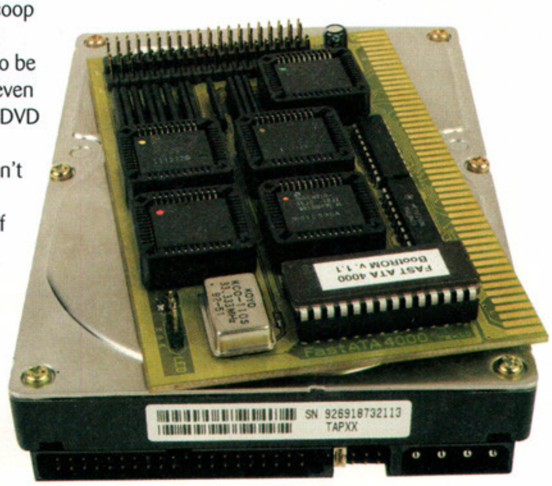
I'm heartbroken now, as I don't use my existing IDE port in my 4000T, and have no intention of using IDE, so I think it's silly to require I install an IDE card for *AllegroCDFS* to function at all. And my single remaining Zorro slot goes to a Delfina Plus, which I have on order, so I am not capable of installing the Power Flyer 4000. Which means my machine is not capable of running *AllegroCDFS* as I don't have any place to put the IDE port/dongle card. Is there any way of attaching the Elbox 4-way buffer to my 4000T's IDE port and using my disable block on the buffer card to disable looking for IDE devices at boot time, and which will also not interfere with OS3.5 (I understand there are some issues between OS 3.5 and this kind of 4-way IDE adaptor)? Since the 1200-intended 4-way adaptor board isn't

The amount of coverage for upcoming games is a waste of space. Surely the Amiga, as a computer, has outgrown games anyway?

too expensive, I'd consider hacking it onto my 4000T IDE port if this would be good enough for *Allegro* to see the dongle and function, but I am not willing to pay for the Power Flyer 4000 just to make a CD filesystem function.

I am also not willing to lose any of my existing Zorro cards to make room for the Power Flyer, as I have no use for IDE ports, and would absolutely hate to waste a zorro slot on a CDFS dongle and lose a useful Zorro card in the process.

Is there any way to convince Power Computing to reconsider their dongle approach, or at least find a way to make people like me happy that don't have any



Why do you need a Power Flyer to get Allegro? (see Allegro Dongle).

place to put the two existing dongles?

Oh, and great job with the magazine. It's now the only remaining informative, in-depth Amiga mag available in any of my local bookstores.

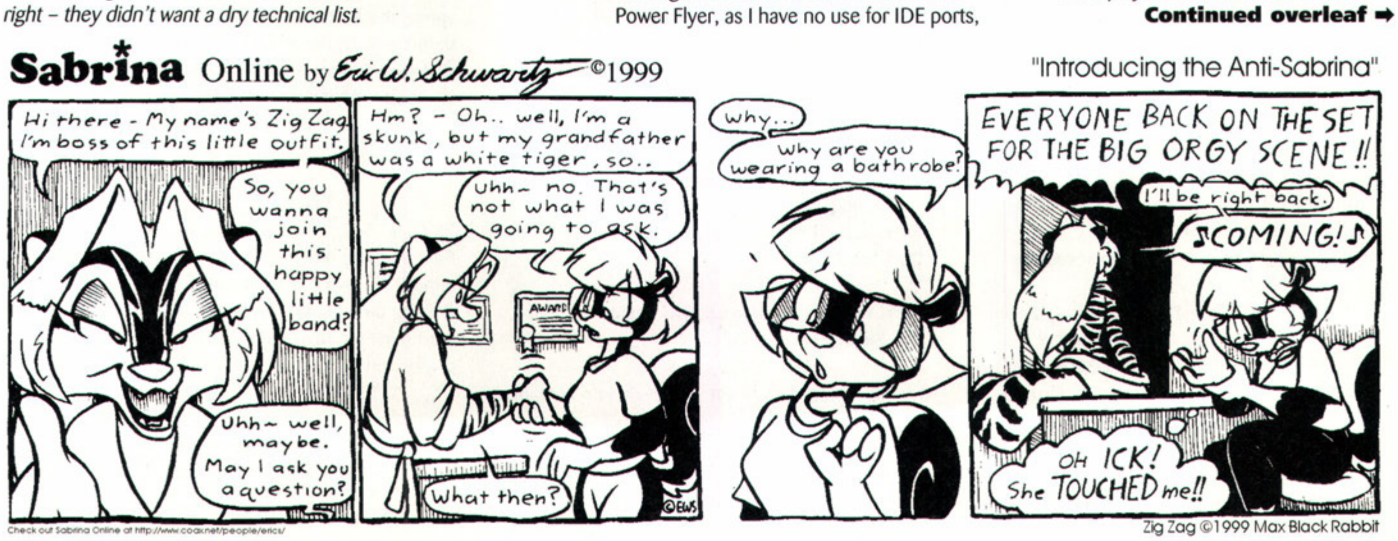
I should get a subscription, but have been to lazy to look into that. But I've been buying it every month I can, and really enjoy your reviews and technical articles.

Bill Toner

Thanks for the kind words Bill, but I don't think there's much hope for you as far as AllegroCDFS is concerned. The thing is that Elbox – the Polish developers who invented it – are rightly concerned about piracy issues and so decided to give their 4-way adaptor (and IDE accelerator, it must be said) a unique selling point in an overcrowded market. The really major benefit from AllegroCDFS at the moment is its ability to read UDF-formatted CD- or DVD-ROMs, and the Amiga doesn't exactly have those coming out of its ears right now.

Perhaps you'll find room for Elbox's

Continued overleaf ➡



promised DVD decoder card that will presumably interface directly to a DVD-ROM drive and the Power Flyer to let you to play back DVD movies on your Amiga?

MORE OS 3.5 PROBLEMS

I got my OS3.5 the other day from Eyetech. I had actually ordered it three weeks earlier from Power, and after numerous phone calls and an email still had not received it, so I ordered from Eyetech to receive my glorious new OS a day later (I'm sure my problem with Power is a one off).

Note for other OS3.5 users: I used an early version of *IDEfix* and *CacheCDFS* which was not replaced by the OS3.5 installer and so the *CacheCDFS* prefs installed by OS3.5 wouldn't work until I manually installed *CacheCDFS* from the OS3.5 CD-ROM then it worked fine.

I have also had a problem for a while of the *PPaint* screen being drawn over when using the pull down menus much like those wrote in by Mark Cheetham in the Workbench section of *AF* 131, the problem is caused by *MagicMenu*, and as much as I like *MagicMenu*, I don't like it corrupting my programs.

On another note, for anyone setting up a new internet connection such as Freenetname, Freeserve, UKonline (my personal favourite, now free) or any other, when the ISP gives you the option to download the file to configure internet explorer, you can download it as ASCII text and then open with any text viewer and print it out if you like. You will find that this file contains all the info needed for setting up system for use with that ISP, from the dial-up number to the POP and SMTP server names.

Craig Roebuck (Tyne and Wear)
craig.roebuck@ukonline.co.uk

Thanks for the tip on ISPs.

ANOTHER VIEW ON OS3.5...

I will not buy OS 3.5. The reason is simple: what does it offer above OS 3.1 that patches can't? Stability? I've never had any problems! A new icon system? *NewIcons* does more than enough for me! An ARexx port for Workbench? What's the point? If I've got any facts wrong I apologise, but as I don't have it I'm only going off what other people say.

Let's hope the next upgrade offers something a bit more significant. I'm sorry, but my money goes on *Wipeout 2097*.

Colin Seddon
Colin@cwas.freeserve.co.uk

There's nothing to compel you to buy OS 3.5, other than a) showing that it is actually worth developing for the Amiga and b) staying up-to-date. I do hope you won't be like one of those people who used to write in to Amiga Format complaining that we didn't offer enough support to Workbench 1.3 users after Workbench 3.1 had been available for years?

AMIGA POP CLONES

In the last issue (131), IBM revealed their free PowerPC Open Platform (POP) reference design licence which is really good news for the Amiga community. Haage & Partner is also committed to making an AmigaOS4.0 with ROM for PPC only. I can't wait to see a brand new generation of PPC-Amigas based on different POP designs.

Personally I would like to see iMAC inspired colour-towers on the new PPC Amigas made by different POP motherboards. More importantly, these new Power Amigas could be improved to incorporate both 33/66MHz PCI sockets (3-6 sockets) so both versions could be used on the same PCI sockets for maximum performance, as well as having DVD, FireWire, 66MHz UltraDMA ATA-support, USB and of course, a lightning fast AGP Pro 4x-port with support for future faster speed access to this graphic port.

The POP-boards should support the new PowerPC G4 processors (and the planned G5/G6-CPUs from Motorola). In terms of RAM: 2G support from 4 SDRAM DIMM-sockets is preferable, but with support for future DDR SDRAM too. Include all that with Linux and you'd have a world beating power Amiga for the future, ready to take the computer world by storm.

The first great thing on the cards for the PowerPC is the soon-to-be-released *FusionPPC*. Soon PPC-Amigas will be able to run all the greatest PowerMac games – great stuff. Let's hope that a PPC-version of PC emulator will arrive in the near future too. Things are really looking up for PowerPC developments.

Who cares about Gateway/Amiga Inc anyway? They can go jump in the lake! If Gateway/Amiga Inc should happen to go bankrupt, companies like *Phase 5* and Haage & Partner could team up and buy the company so that they can do the job properly. Even better, a consortium like the Phoenix Platform Consortium could buy the Amiga company.

Most of the Amiga community is already ignoring Gateway and Amiga Inc, so why not ignore them until they finally show up with something revolutionary and important for the Amiga community?

Who cares about Gateway/Amiga Inc anyway? They can go jump in a lake! Why not ignore them until they come up with something revolutionary?

CD REQUEST

Dear AF,
The magazine keeps getting better and better and so do the CDs, but I'd like to see the following items on future AFCDs:

- **(QA) Blue Byte's address - To try and persuade them to convert Settlers II**
- **(VA) Descent update - have there been any more since version 0.8?**
- **(VA) Amiga Survivor Website Info - Promote AMIGA by supporting each other!**
- **(SA) Amiga Energy Websites? - Again promotion of the AMIGA community**
- **(VA) 'Acsys' Demo/Preview - A Turrican inspired platformer by Unique Productions**
- **(SA) 'Creepz' Preview - Platform adventure developed by NtT?**
- **(VA) 'Dafel: Bloodline' Demo/Preview - Pagan and Sadeness Software's Action Adventure?**
- **(QA) 'Enforce' Demo - Insanity's 3D Engine Demo**
- **(SA) 'The Haunted' Demo/Preview - Alive's Graphical Adventure**
- **(QA) 'The Holy Trinity' Preview - Graphical Adventure developed by Digital Visionaries?**
- **(VA) 'Joyride' Demo/Preview - A 3D Racer from Milan Golubovic and Davor Rivic**
- **(SA) 'Rage of Mages' Preview - Strategy game being ported from PC (Monolith)**
- **(QA) 'Shogo' Preview (in .AVI or .MOV) - Quake style game with anime inspired graphics**
- **(VA) 'Wild Tracks' Demo/Preview - Another 3D Racer from Deepcore Entertainment**
- **(QA) Latest news on 'Claws of the Devil' by Titan Computers?**
- **(SA) Latest news on 'The Dead Walk' by Alpha Software?**
- **(VA) Latest news on 'Golem' from Power Computing**
- **(VA) Latest news on 'Tales of the Heaven' from Darkage Software?**

(Key: VA= Very anticipated, QA= Quite anticipated, SA= Slightly anticipated)

I know there's a lot to get your teeth into here, but I'm really intrigued to know if some of the items are still in progress, released or halted.

The items I have selected are of great interest to me as I'm a strong believer that the Amiga has tons of life left in it. I love the gaming side mostly, getting Genetic Species and Descent, both being very smooth on my setup. I also love the serious side of the machine's capabilities - trying out the different art packages, word processors, spreadsheets, desktop publishers and all. Unfortunately, I don't have access to the Internet, so Amiga Format is my only hope to getting the latest information on long awaited games, etc.

Cheers to all the Amiga Format team, hope to see some (if not all) of my requests on future AFCDs.

David Wright, Derby

PS Could Amiga Format start a campaign for Amiga Gamers to try and get Blue Byte to change their minds? The more interest shown by the Amiga Gaming Community, the more likely they'll change their mind for Titan Computers to complete their conversion of Settlers II and hopefully for others.

I'm not sure that Blue Byte would even care that a few people can't have Settlers running on their machines, but I think that's it's probably about time we ran a "future of gaming" article again.

ANTI-PRE-ORDER?

I'm one of many people who has everything against Amiga piracy and pirates of games and software. You say it's a good thing to pre-order software, and companies blame piracy for the lack of pre-orders they get for their productions. While pirates should be treated mercilessly, it's not the only factor that stops people pre-ordering.

You see, pre-ordering software is a bit of a gamble. While OS 3.5 was obviously bound to be good, with games you can never be sure they're worth buying, even at the reduced price. Games always look good in adverts, but *Star Fighter* and *Turbo Racer 3D* weren't half as good as they looked. *Tales From Heaven* and *Heretic 2* look like they could be incredible – the first *Mario 64* and *Tomb Raider* games for the Amiga. Epic Marketing are taking pre-orders for them, but I won't be buying anything until I see it reviewed in *AF*. We can't guarantee that we'll get what we pay for.

Pre-ordering hardware is just the same, except that hardware can't be pirated. While us honest, decent Amigans never do piracy, some of us are only too lazy to use Amiga warez. So, in order to stop or reduce piracy, we must never use cracked software. Maybe then pirates will realise what they're doing isn't worth it, and will stop.

Stu MacDonald
chris@swale82.freeserve.co.uk

If nothing else pre-ordering gives companies the confidence that will at least get paid for all their effort.

Support the Amiga and the PowerPC – they're the future of computing!

Helge Kvalheim, Norway

Well, things have changed dramatically again this month with the announcement that Amino have now bought the Amiga, but I'm with you Helge, I'd like to see a POP-based Amiga by autumn this year.

IN AN IDEAL WORLD...

We start with four A1200 motherboards and add four accelerators; Blizzard 1230/603e+/1260 and G4.

We stuff them in a case with Zorro 2/3 and Z4 buses and add four graphics cards. Naturally we want a big monitor or four, and a wide screen TV. We also want four modems and a Pace 'Solo' modem. We want 3 x 18Gb hard drives, 8-6 x CD Roms and CD-R/W and a DVD Drive or two.

For external storage, we want a 2G Jaz, a 250M ZIP, a 120M floppy, a 1.76M floppy. We want two ultra-2-wide SCSI, two ultra DMA, 2 Firewire, 2 USB, inputs for four to 16 remote cameras/videos, outputs for stereo speakers and remote speakers, and stereophones and a couple of voice mics. We also want four fast parallel ports and eight fast serial ports and 16 mouse/remote controller ports, a couple of Infrared ports and an A4000 keyboard.

The case will have to be double sized to get it all in and there will be some wiping/software needed to get it all working from a single keyboard, but when it's finished, it will be the best Amiga around and will attract a lot of attention from those fed with the alternatives. Now, the question is: where do I get hold of one?

Amiga Reader, Northumberland

Why didn't you ask to start with? You can get exactly that machine, at the very reasonable price of £39.95 from any branch of Dixons – just go in and ask...

MILLENNIUM JUG

So the Millennium came and went and left the media disappointed: no aircraft fell out of the sky, no powerstations exploded, no nuclear weapons were detonated over major centres of population, and no other such disasters occurred due to the eagerly awaited millennium bug.

And my Amiga's fine too!

So I thought I'd offer you this exclusive scoop, concerning the customer who tried to return a piece of electrical equipment to the department store that I work in.

He was convinced that it had fallen prey to the Millennium Bug due to the fact it had stopped working, just after midnight on the 31st of December.

It all sounds plausible, until you find out that the aforementioned piece of hi-tech hardware was in fact a kettle!

Hope this gives you a chuckle.

Peter Johnstone, via email

I'm surprised the electrical department wanted anything to do with it if it didn't run Windows...



Our CD now has lovely OS3.5-style colour icons.

FALSE ICONS

I wanted to write to you about OS 3.5 icons. The ones that come with the OS are brilliant but since then every icon for OS3.5 I've seen released (save a few) have been, quite frankly, awful. For a start, most so called *Glow Icons* on the Aminet are in fact *NewIcons* and I refuse to switch on *NewIcons* on my Workbench as it slows it down and wastes all my RAM.

So come on Amiga artists, please start creating some icons worthy of the new OS. I do feel the best way to achieve this would be for the original OS3.5 artist, Matt Chaput, to release some templates of the icons before the glow was added so anyone can go about making icons with ease.

Gideon Cresswell, via email

It seems like it's early days yet for Amiga icon artists, but I full anticipate a good range of OS3.5 colour icons in due course. To keep you happy, you'll be pleased to see our CD has been redone for OS3.5.

PICTURE EDITOR

Once again, you amaze me. Despite the fact that you've recently lost another eight pages, you still manage to waste large quantities of the remaining space. I am referring to pages 14 and 18 of issue 133.

I know a picture is supposed to equal a thousand words, but personally I would prefer the words in writing. And I'm sure the subscriptions could be cut back to one page, with room left for the back issues.

What happened to the new economic use of space we were promised?

David Thomsen, via email

Sorry you feel that way David, but I can appreciate what you're saying. We'll do better next time, honest.

SUBSCRIBER DILEMMA

I have been struggling with the decision whether to renew my subscription to *AF* for another year.

It has been a continual downer to watch the state of the market with cancellations coming from *Amiga Web Directory* and *Amazing Computing* magazine. Even the Czech *Amiga News* has stated that they were only going to wait until March, I think, for the Amiga situation to improve before dropping their Amiga news coverage on the web. Some vendors and developers have also quit the Amiga.

I finally decided to renew my subscription partly because Amino have bought the company and promise to kick-start development, and partly because I thoroughly enjoy reading your magazine.

Oh, I almost forgot: another determining factor is my Amiga, which still runs very nicely after six and a half years; in fact, I don't recall ever having to take it in for a repair.

Best of luck to our new owners.

Mark Dekeyser, via email

Well, plus ça change, plus c'est la même chose. It seems, once again, that just as everyone's getting ready to ditch the Amiga, something new comes along to renew your faith in this enduring machine.

Just after Christmas was the darkest time in Amiga history, what with the sudden closure of the Amiga Web Directory, and others stating that they had given up all hope, but then, new year's eve, Bill McEwen makes himself known again and with a huge "yee-haw!" pronounces that the Amiga has a new set of owners, but real Amiga people this time rather than besuited clones.

The BoXeR is being prototyped as I write this, The Met@box G3 accelerators will be in our next issue (I hope), we've got software like PageStream and Tornado 3D and things are generally on the move again.

Perhaps 2000 will be the year that the Amiga rises again?

Ben Vost

The Gallery

On the CD -ReaderStuff-/-Gallery-

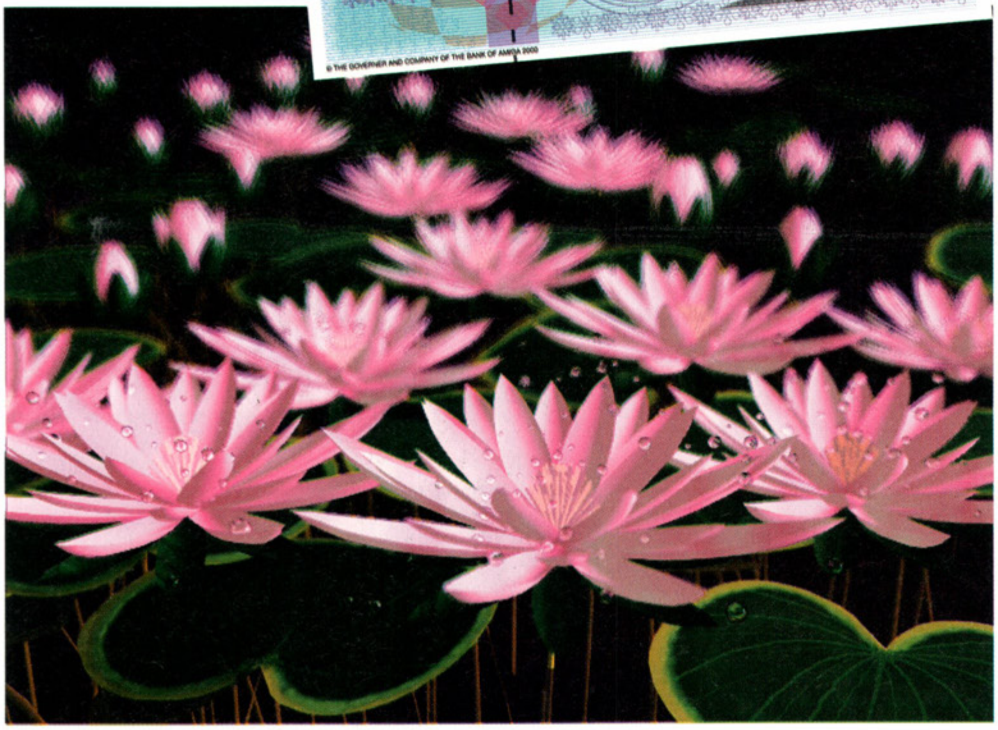
Roll up! Roll up! Bring your works of art here! We love 'em all, but only one artist can win our fifty quid!



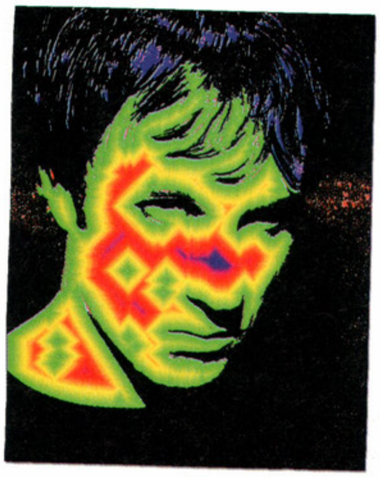
£50 WINNER!

Monet Revisited
by Jack Thewlis

This image is just part of a huge animation that Jack is working on in Lightwave. We really liked the simplicity of the image, especially combined with the depth of field, although Matteo Cavalleri's ultra-realistic coffeepot image pressed it hard for the prize. Send us a smaller version to go on our CD Jack!







DANCE and DESTROY
by James Mitchell

Two corking little images from James here – both hand-drawn and then scanned in. The Destroy picture has a real pop-art sensibility about it.

CONTRIBUTIONS

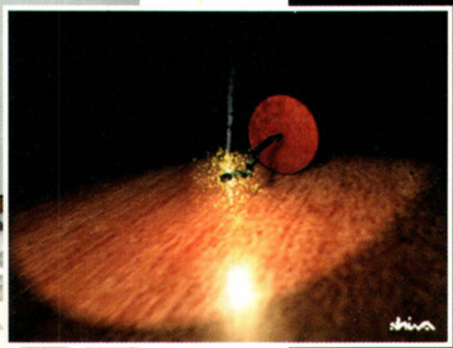
If you'd like to enter your work (and it should be only your work!) for the Gallery section on the CD and the pages in *Amiga Format*, read the Reader Submissions advice on the CD (you can find it in various places) or simply make use of the form that can be found on the CD pages of this issue.

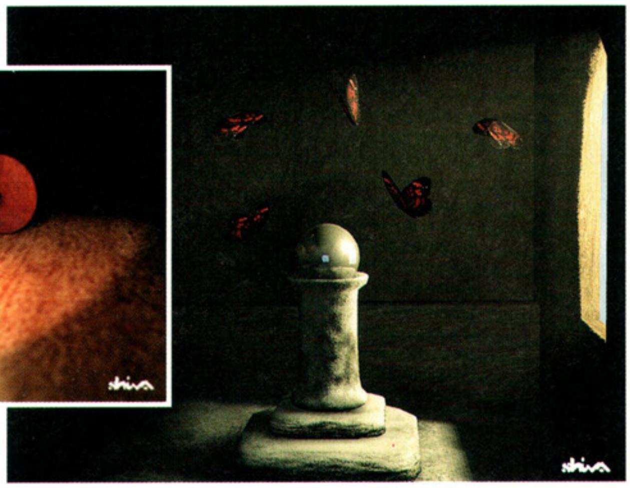


Skater
by Chris Spicer

Chris sent us his "magic fly" logo pictures in recently, but we like this a lot more. Is there more to Skater's tale, Chris, or is this the only panel you've drawn so far?

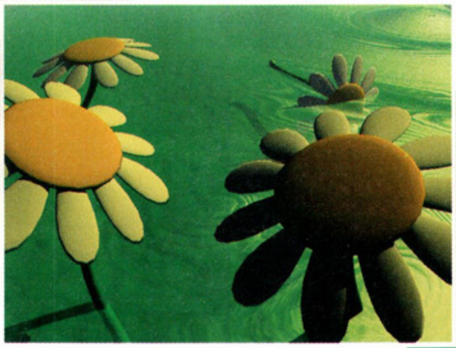






CoffeePot, Dinamite and LifeRoom by Matteo Cavalleri

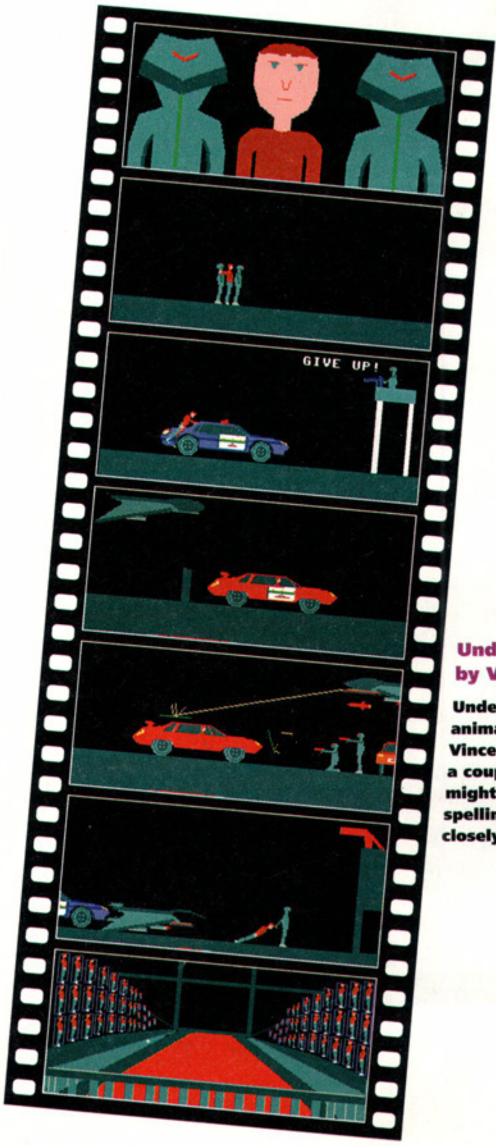
Matteo did what I couldn't manage and got Tornado 3D to stay up long enough to produce some stunning ultra-realistic images. Send us some examples of metaball modelling next, please Matteo!





FloodedGarden and SIMSHIP2 by Simon Hawley

Our second flowery image this Gallery, and another nicely composed one at that. Both images were produced in Cinema 4D, on a stonking setup, but Simon doesn't offer up much other detail.

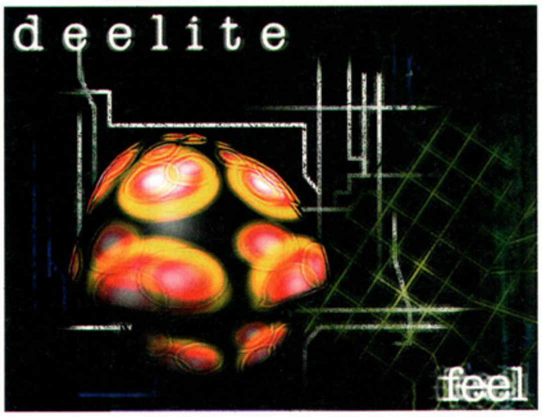


UnderCover by Vincent Perkins

Undercover is a bit of an animation epic sent in by Vincent, since it runs for a couple of minutes. You might want to check your spelling a little more closely though, Vincent.







AudioReality, DeeLite1 and GRL1-fin by DJ Nick

DJ Nick's no stranger to our Gallery section, and his excellent AVI is on our CD. These images were just a few picked out from the general excellence that made up his contribution, but the images in the Pics1 drawer were mainly produced on PCs.



AFCD 50

Turn your Amiga into a Mac or a PC – or at least convince your machine that that's what you've done

This issue we have a special gift for our readers: full, commercial releases of *Fusion*, the Mac emulator, and *PCx*, the PC emulator. Please note that this software is not shareware, so may not be distributed any further.

PPC versions of *Fusion* and *PCx* are due for release soon and each will require its corresponding 68K version to function. *Amiga Format* is negotiating a special upgrade deal for our readers. Hopefully, we can bring you more news next issue.

FUSION 3.1

-Serious-/-Commercial-/Fusion+PCX/Fusion_3.1

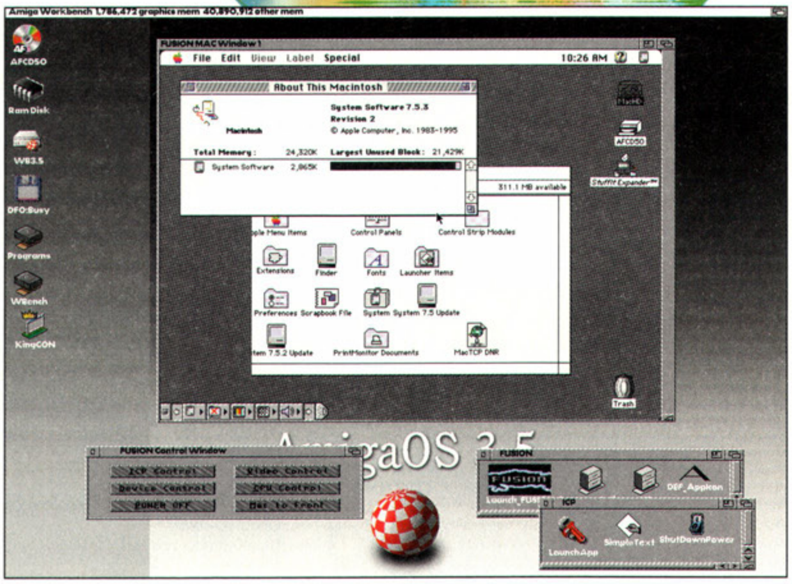
The Amiga and the classic Mac share a common processor family, the Motorola 68K series. So, thanks to the versatility of AmigaOS, and with some clever software, it is possible to make your Amiga emulate a very usable 68K Mac. *Fusion* is just such a software emulator.

> *The Mac emulation can make use of much of the Amiga's hardware, such as a CD-ROM drive, serial and parallel ports and ethernet cards*

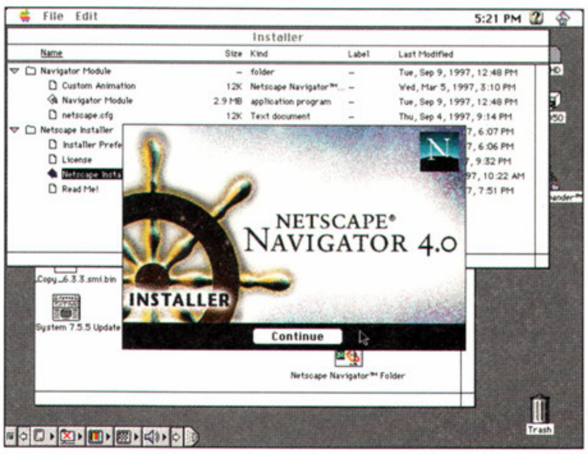
Fusion runs on any Amiga with a 68020 or better processor, 8M or more of RAM and at least AmigaOS 2.04. A faster processor with an MMU and FPU is recommended, as is a graphics card. The Mac emulation can make use of much of the Amiga's hardware, such as a CD-ROM drive, serial and parallel ports and ethernet cards.

Macs have boot software built into ROM chips, similar to the Amiga's Kickstart ROMs. To be able to use *Fusion*, you must have a file image copy of these ROMs from a real 68K Mac. The tool to do this is supplied with *Fusion*. Legal use of such a ROM image requires that you own the Mac from which it came.

You also need a copy of MacOS on disc. Depending on the ROM types you



Fusion and PCx: hopefully we can bring you more news next issue.



Fusion enables your Amiga to emulate a 68K Mac.

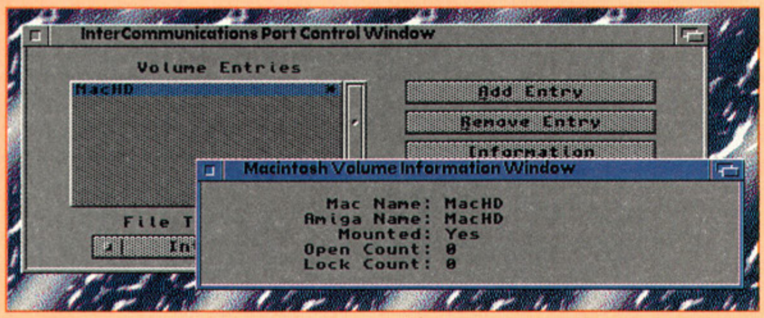
DRIVES

Both *PCx* and *Fusion* can either make use of dedicated partitions or hardfiles to act as hard drives under emulation. A hardfile is a simply a large AmigaDOS file which, through some software trickery, appears to the emulator to be a real hard drive. The disadvantage is that hardfiles are much slower than the real thing.

The other option is to re-partition your hard drive and assign individual partitions to the emulators. These will then have to be formatted under the emulated operating system and so will no longer be directly accessible from the AmigaOS.

***Fusion* permits access to the emulated Mac's hard drives (whether hardfiles or the real thing) via its ICP (InterCommunications Port) controls. You may mount any of the Mac's disk devices as a virtual AmigaDOS device. This then allows you to copy files between your Amiga's filesystem and the emulator's filesystem from the Amiga. *PCx* does not offer any such service.**

Both systems are able to make use of the Amiga's floppy drives, whether double or high density. An HD drive is highly recommended since these are more common for Mac and PC software.



Mac HD is not a real hard drive, but you're not going to tell your Amiga that, so it isn't going to know, and what it doesn't know can't hurt it.

have, *Fusion* works with System 7.1 to System 8.1. You must boot *Fusion* from the MacOS disc and install it on the emulation's hard drive. System 7.5.3 is provided on the coverdisc, as self-mounting image files, but you will have to extract these under MacOS to be able to use them.

Installation of *Fusion* is simple. Just double-click on the HardDisk_Install Icon and select where you want the *Fusion* to reside on the your hard drive. When you have a ROM image, you must copy this into the *Fusion*'s ROM_Image's drawer. You must reboot your machine after installation.

To start the emulator, double-click the Launch_Fusion icon. This will present you with a window where you can configure the emulation. You can select how much and what type of memory will be given to the virtual Mac, what video driver to use, which drives and devices to use and so on. The Start Emulator button starts the emulation proper. Before you can do anything useful with *Fusion*, you will have to install MacOS on your virtual Mac. This can be hard work. We are investigating the possibility of putting a hardfile containing a full install of MacOS7.5.5 on next month's coverdisc to make this easier.

PCX 1.1

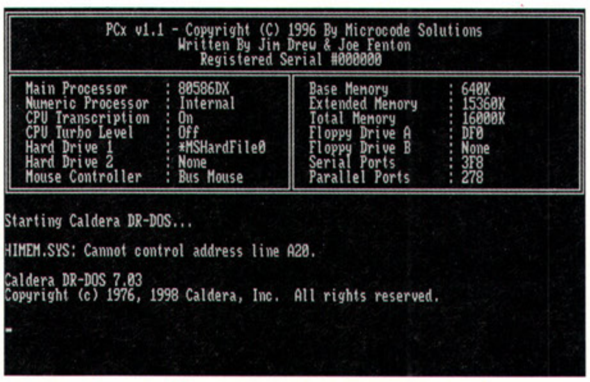
-Serious-/-Commercial-/Fusion+PCX/PCx

PC emulation has a long history on the Amiga. It all started as part of Commodore's master-plan; by offering PC compatibility they hoped to break the Amiga into the office. Yeah, right. The most useful early

> You can select how much and what type of memory will be given to the virtual Mac, what video driver to use, which drives and devices to use

emulators were hardware based; they actually contained a rudimentary x86 system on a card. With the increase in processor power, software emulators have become more popular.

Microcode's *PCx* is a software-only PC emulator which creates a virtual PC on your Amiga with a 50586DX processor and up to 16M of memory. This is sufficient for running MS-DOS and Windows3.1, but later version of Windows will not work.



DR-DOS, the erstwhile competitor to MS-DOS...

WHAT'S NEW

We here at Format Towers have been relentlessly plugging OS3.5 since its launch. To back this up, we thought we'd do something concrete. Starting from this issue, the *AF* coverdisc now uses the OS3.5 Color Icon format. We also have a swanky set of new icon images courtesy of the great Matt Sealey. Readers without OS3.5 will see plain, old, boring 4-colour versions of the same icons.

Do let us know what you think. Do you like the new icon format and images? Does everything looks as should on your machine? Drop us a line.



Are you getting anything like this on your Amiga? Drop us a line and tell us.

Unlike Mac emulation, to emulate a PC on the Amiga you have to emulate the processor. This necessarily incurs a performance penalty.

PCx runs on any Amiga with a 68020 processor, 3M of Fast RAM and AmigaOS2.04 or better. As usual, the faster the processor and the more RAM you have the better. You also need an x86 operating system on floppy disk. Obvious choices here include Microsoft's offerings, but you could also try FreeDOS, a freely-distributable DOS-compatible operating system (see http://www.freedos.org/) or DR-DOS, the erstwhile competitor to MS-DOS now owned by Caldera (you may download a demo from http://www.lineo.com/).

BOING BAG 1

-In_the_Mag-/BoingBag_1

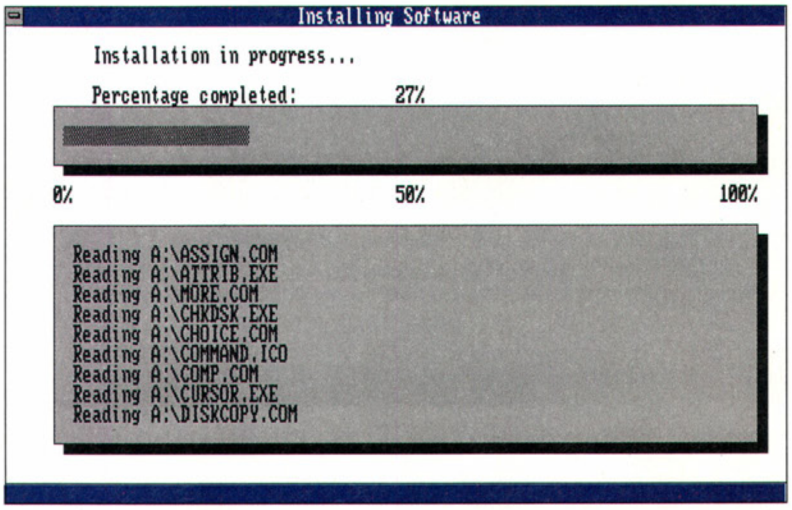
On Christmas Eve the Amiga-owning public was treated to an early Christmas present; the first service pack for AmigaOS 3.5 was released – the Boing Bag. (I bet Microsoft are kicking themselves that they didn't come up with a cuddly name like that!)

The Boing Bag is a miscellaneous collection of bug fixes and tweaks based on two month's worth of bug reports from the users of OS3.5. No major new features have been added; the goal here is stability.

Some of the many fixes include:

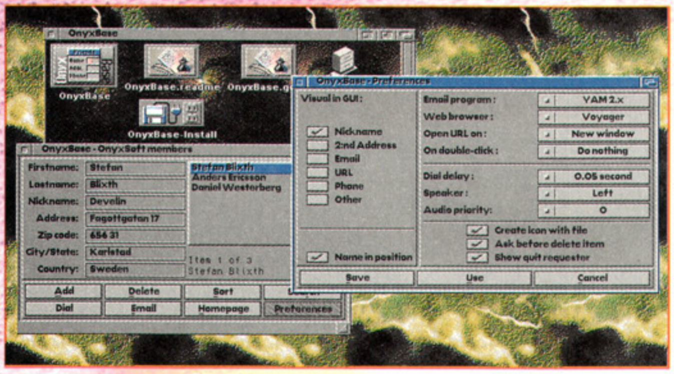
- Volume windows now show used and free disk space correctly.

Continued overleaf ➡



...is now owned by Caldera. Go to http://www.lineo.com to download a demo.

Your Stuff!





£50 WINNER!

Those long winter nights are obviously paying off. It's been too dark to go outside and play, so you've all been staying inside creating interesting stuff with your Amiga to send to us. Great, ain't it?

The winner of this issue's prize for the best reader's entry is Stefan Blixth, for his excellent little address book utility, *OnyxBase*.

Now the observant of you might have spotted that Stefan's program also features on this issue's floppy disk. Don't take this as an oversight on our part; see it as sign that *OnyxBase* is so good that we felt that Amiga users without a CD-ROM should see it too.

OnyxBase allows you to store details of your friends and contacts. It features a well thought out and easy-to-use interface and, what's more, it can communicate with your email package and web browser.

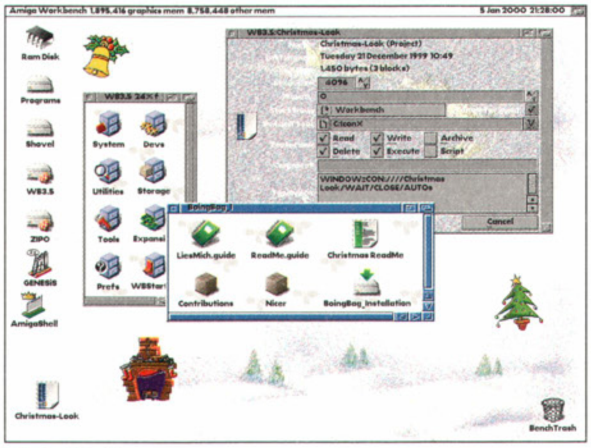
Click on a name and hit the 'Email' gadget to begin composing a message to that person in your email client of choice. Click 'Homepage' to surf to their website in your browser.

Stefan, your £50 will be winging its way towards you, by the time you read this. Good work and enjoy your prize.

- The sort order when WB windows are in 'View by Text' mode has been improved.
- Volumes with fakes icons can now be snapshotted.
- The font preferences editor now shows the Workbench backdrop pattern in its mock-up of the Workbench display.
- The Workbench preferences editor now uses volumes names instead of device names in its hidden devices list.
- Setpatch now works better with 4-way IDE interfaces.

A surprise bonus in the Boing Bag was the addition of the new AnimatedIcon tool. This makes use of OS3.5's new AppIcon functions to show anim GIFs or TransferAnim type IFFs on the Workbench. It's not very useful perhaps, but it is loads of fun.

Also supplied was a Christmas theme for Workbench, with various festive animations and backdrops to put your Miggy in the Christmas spirit. Shame it made it so late to the AFCD really.



A Yuletide theme for Workbench – just in time for Chinese New Year.



The new font preferences editor for the Amiga.

OPENBSD 2.6

-In_the_Mag-/Reader_Requests/OpenBSD

If you want to try out UNIX on your Amiga and you want the real thing rather than Linux, you might like to try one of the several freely-distributable BSD variants such as OpenBSD.

What distinguishes OpenBSD from other versions is that the project focuses mainly on security and cryptography (OpenBSD is based in Canada, so is not subject to those peculiar US export laws).

OpenBSD has just newly been ported to the Amiga and is largely based on the work done by the long-established Amiga port of NetBSD. It offers good support for a wide range of Amiga hardware and requires at least a 68020 processor with an MMU and FPU, 4M RAM and 55M hard disk space. It must be noted that these really are minimum requirements – X will be virtually unusable on such a system.

A basic distribution of OpenBSD is supplied on AFCD50. This includes the BSD kernel, the usual shell tools, perl, C/C++ development tools, manual pages, games and the X environment.

Installing OpenBSD is quite complex process and will involve the repartitioning of your hard drive. Unfortunately, *Amiga Format* is unable to offer help for installation. See the supplied documentation and go to http://www.openbsd.org/ for more information.

QUAKEPPC

-ScreenPlay-/Shareware/awinquake

Shortly before Christmas, id software open-sourced their famous first-person shooter, *Quake*. Already, several ingenious Amiga developers have produced PPC versions for the Amiga. A legal PPC port of *Quake* has been long-awaited, because clickBoom, the company behind the commercial 68K release, balked at doing a PPC conversion – and 68K Amigas don't really have the horsepower to make the game fast enough to be really playable.

AWinQuake by Peter McGavin, the man behind the excellent *ADoom* port, is supplied with executables for 68K and PowerUp (although the latter works perfectly under ppc.library emulation).

The PPC version pushes out over 28fps on the office A4000 equipped with a



Based in Canada, OpenBSD is not subject to US export laws.





A version of Quake – the world-famous paintball simulation – is now available for the Amiga (legally).

200MHz CyberStormPPC and CyberVision3D. By comparison, clickBOOM's version manages a feeble 9fps. No doubt, once the code has been optimized for the Amiga, the freeware ports should become even quicker.

Several other teams are working on separate *Quake*, for example Frank Wille and Steffan Hauser have done ports for both WarpOS and PowerUp (see http://devnull.owl.de). They have also produced ports of the QuakeWord server and client and are said to be working on a Warp3D version of *QuakeGL*. Then we should see some real speed.

Richard Drummond

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Email: amformat@futurenet.co.uk
(Please remember to put "Coverdisc" in the subject line.)

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If you have any further queries about how to send your software in then consult the Submissions Advice on the CD (in Start_Here!, or in the ReaderStuff or +System+/Info drawers).

Files you send this month will probably appear on *AF*CD51 – *AF*'s April 2000 issue.

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Serious Disk

We present you with another perfectly formed collection of extremely useful little programs to make your Amiga smile

CLOCKCAL

This program simply opens a window on your WB that is capable of containing up to four analogue clock faces, each of which you can then configure to show the current time in different places in the world.

ClockCal supports daylight saving time changes and the program also features a fully configurable calendar that you can set up to remind you of specific events.

MULTIREN

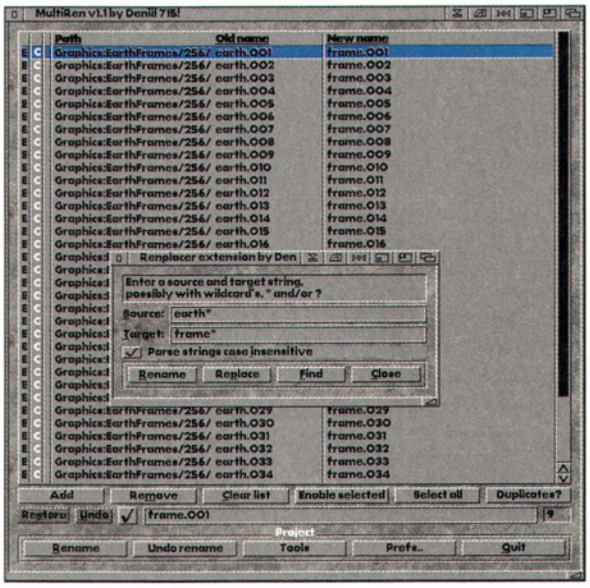
This program renames (usually) long lists of multiple files in one easy operation.

One of *MultiRen*'s more useful features is that no files are actually renamed until you actually click on the "Rename" button in the interface window. Another useful feature is that *MultiRen* enables you to save the list of filenames (and their states) so that you can continue at a later date – you can even save the list as a backup so that you can undo and reload the list if all doesn't go quite as you had expected.

Multiren also allows you to save its lists as plain ASCII text, thereby enabling you to manually edit its attributes, should you decide to do so.

MultiRen should work on any Amiga running OS version 37+, but, as it is a MUI application, it obviously requires that MUI is installed on your system.

To install *MultiRen*, simply copy it to the desired location on your hard drive. If you want the online help to work, we would also recommend that you copy the MultiRen.guide file to the same location.



Here we have setup MultiRen to change all "earth" filename names to "frame".

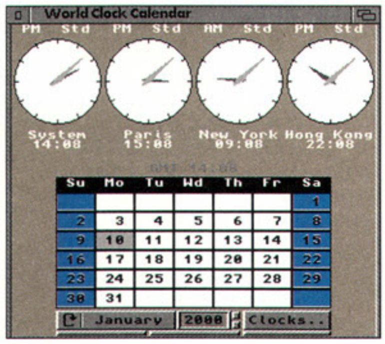
> Onyxbase doesn't come with any example databases, but this isn't a problem as it really is very straightforward to set up and use

ONYXBASE

OnyxBase is a user address book manager. It is very easy to use and it has some really nice features: the simple interface includes full localisation, it supports the Amiga's clipboard, it has full sorting and you can even set it up to send emails and check people's homepages.

Unfortunately, *Onyxbase* doesn't come with any example databases, but this isn't a problem as it really is very straightforward to set up and use; manual installation is a breeze, but an installer script is also supplied for the faint hearted.

Onyxbase should run on any Amiga running WB2.04 but if you wish to use the program's email and web features, you will also need one of the supported programs.



ClockCal is great if you need (or want) to know what the time is in Rangoon.

VIRUSZ

VirusZ is (at the time of writing) the latest version of one of the Amiga's longest serving and best known virus killers.

You can use it as a background program to check memory and inserted disks for viruses, or you can opt to scan your entire system for all known viruses.

Configurability is the name of the game here and *VirusZ* features probably more of this precious commodity than you have ever seen before on an Amiga virus killer.

To install *VirusZ* you simply copy some libraries over to your LIBS: directory (a copy libs script is supplied to do this for you) and then drag the main *VirusZ* program icon over to your WBStartup drawer.

You should be able to run *VirusZ* on any Amiga running WB2.04 or later. But if you intend to use some of its advanced features, then you should make sure that you have the required additional libraries.

Errol Madoo

AKPNG

The akPNG.datatype is a PNG datatype based on the latest PNG sources (zlib V1.1.3, libpng version 1.0.3).

The akPNG.datatype supports 8-bit colour-mapped (colour-space is always expanded to 8 bits per component) and true-colour files (24/48-bit, alpha channel ignored, 48-bit 16:16:16 cut down to 24-bit 8:8:8).

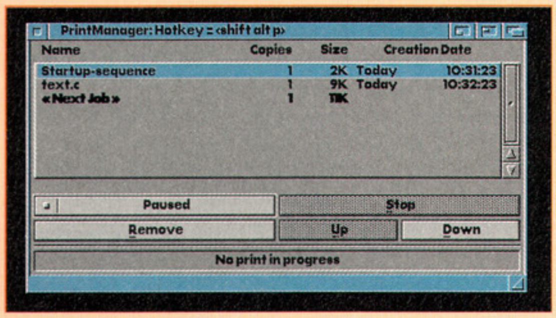
This version contains the 68000, 020/030, 040 and 060 versions along with the PPC ELF module.

The akPNG datatype should run on any Amiga with at least WB3.0. To install it, just double click on the install icon.

PRINTMANAGER39

PrintManager is a printer spooler that intercepts all printer.device calls to the parallel-/serial.device (any files sent to your printer) and saves the printer specific raw data to a file on your hard drive. This means that the program that sends the file doesn't need it to be printed before it can continue.

PrintManager also gives you some control over the data being sent to the printer. It even allows you to print files directly from within the program using the datatypes system. PrintManager should work on any Amiga with WB3.0+ (and a printer). It is quite complex so should only be installed using the supplied installer script.



PrintManager takes control of your printing activities and so frees up the programs that have sent files to be printed.

Games Disk



"Solitaire's the only game in town," sang Karen Carpenter. Not true, as we shall now amply demonstrate

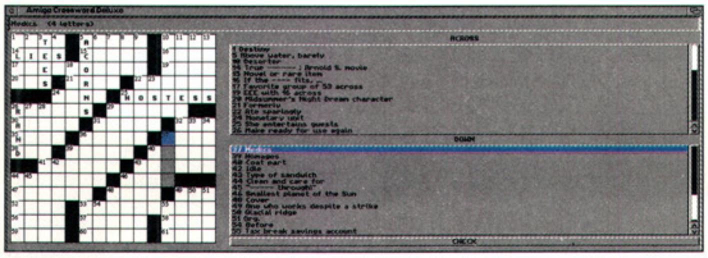
CROSSWORD DELUXE

Crossword Deluxe is, as you might guess, a crossword puzzle game for your Amiga. Click the *Crossword Deluxe* icon and you are presented with a file requester asking you to select a puzzle. Select one and it loads – you are ready to go.

The way you enter text is a little strange at first, but once you get the hang of it, it's really intuitive. You can either click on the clue you want to solve in the right of the *Crossword Deluxe* window or click on its starting square in the actual puzzle on the left. You can click on the square to highlight the corresponding clue and click on the square again to switch the direction. Text is then entered on a square by square basis and you can use the Backspace or Delete keys to erase letters.

A nice feature of *Crossword Deluxe* is that it allows you to save a "puzzle in progress" when you quit. This probably sounds pretty standard, but when you start the program again, *Crossword Deluxe* not only allows you to start a puzzle where you left off, it also gives you the option to start the same puzzle again from scratch.

Crossword Deluxe supports both the Across Lite and ACD puzzle formats so there are no shortages of new puzzles to be found on the Internet. Full details and web links to new puzzles can be found in the author's readme file. And, as an added bonus, we have downloaded an additional 30 puzzles to get you going. You'll find these puzzles, along with the standard 5 supplied puzzles, in *Crossword Deluxe*'s Puzzles directory.



Now you have a crossword puzzle game especially for your Amiga.

FreeCell, on the other hand, is slightly more complicated than Solitaire, and also slightly different in that it requires more skill than luck

Amiga *Crossword Deluxe* works on any Amiga with Workbench 3.0 or higher, though you will need a copy of the reqtools.library in your system's LIBS: directory, and, ideally, you should be running a screenmode of at least 640x480.

An installer script is supplied but all you actually have to do is to copy the main directory to your hard drive and then copy its fonts to your FONTS: directory.

DIAMCHALLENGE

DiamChallenge is a platform game, the aim of which is to collect a pre-defined number of diamonds and then reach the exit to finish a level. But life isn't as easy as that; not only do you play against the clock, there are also loads of bad guys to make your life even more interesting.

The game is supplied with 50 default levels, and to spice things up a little more, you can even opt to play the levels in mixed order.

DiamChallenge should run on most Amigas but it will be happier running under Workbench3 with at least an 030 processor.

Installation simply involves copying the main directory to your hard drive, though you can also set the program up to run from a floppy disk.

MUI_FREECELL

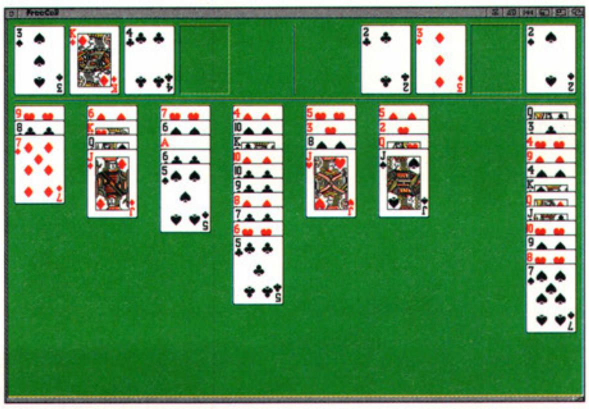
For those not familiar with *FreeCell*, it's a card game similar to the age old *Solitaire*.

If you've played *Solitaire* (and let's face it, who hasn't at some point?) you will know that you need just as much luck as skill to win the game; if you don't get the cards dealt in a favourable order, your chances of winning are severely reduced. *FreeCell*, on the other hand, is slightly more complicated than Solitaire and also slightly different in that it requires more skill than luck.

This version is MUI only and features customisable cardsets, keyboard shortcuts and the ability to adapt certain parameters to suit your system.

Being a MUI application, *Freecell* obviously requires an Amiga running MUI3.8 but, apart from that it should run on any Amiga running at least Workbench3. It does not require any special installation.

Errol Madoo

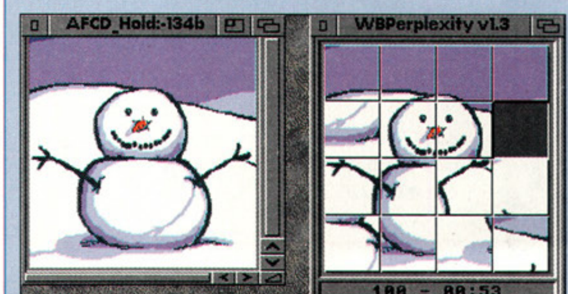


Now you can play Freecell on your Workbench with MUI Freecell.

WBPERPLEXITY

***WBPerplexity* is a little puzzle game for your WB based on the old game of "14s and 15s". All you have to do is reassemble a picture that has been split into a pre-defined number of squares. You do this by sliding the squares up, down, left and right.**

You can break up the picture into either a 3x3, 4x4 or a 5x5 grid and *WBPerplexity* even allows you to use your own pictures. The game requires an Amiga running Workbench 3 with GIF, PNG & ILBM datatypes installed.



The aptly named WBPerplexity gives you something to think about – just remember: the "14/15" puzzle cannot be done.

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A1200, OS3.1, 1240-25MHz Accelerator, 16M RAM, 6.4G HDD, 8X CD-ROM, Buffered Interface, Philips CM8833 Mk-II Monitor, 200W Subwoofer, 240W Satellite speakers, Mini Tower case – £450 ono ☎ James 01779 475844. Buyer collects/pays postage

A3640 board, 25MHz 68040. Full chip with fpu and mmu. Fits A4000 or A3000 – £50. Basic A1200. No extras – £50. A4000/40, 25 MHz 18M, CD-ROM, 850M HD, Full Tower Case – £450 ono (£500 with spare A4000) ☎ 01978 362874 or email ian@hopkins64.fsnet.co.uk

A4000:030/25MHz FPU 2+16Meg RAM 270M HDD Desktop in exc. condition, WB3.0, 3.0 ROMs, KB, mouse, disks and manuals. Other bits and bobs thrown in – i.e Tandem IDE/CD card (boxed), Joystick, various software; *DPaintIV, Wordworth,* disks and manuals – £300 the lot. Contact: Michael, 8 Bolsover Street, Hucknall, Nottingham ☎ 0115 9569820 or email gharv@innotts.co.uk

4way buffered interface + EIDE 99 Gold software, includes drivers for Joliet + DVD filesystems, boxed, manuals, hardly used – £20. *Napalm* (*Command & Conquer*) clone game – £12 ☎ Anthony 01925 573625 or email shezzor@asp.u-net.com

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WANTED

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I want Scala Echo 100 hard and soft. Will pay good price. André Vermeille, 3 rue du President Mazarick, 42100, St Etienne, France ☎ 04 77 57 87 84

Desperately seeking a Picasso IV card, can anyone help? Rita Ruban rita7@dialstart.net

Wanted: original games; *SWIV*, *Dungeon Master I*, copy of *LSL3* disk 1 (1 game saved over mine) ☎ 0116 222 3859

Rombo Vidid Amiga Digitiser 24 RT pro/12 RT or pro-grab 24 RT Enzo ☎ 01527 529917 any time

Can anyone help? I've lost my disc of *DSS8* by GVP. I've got manual and box but someone has relieved me of the disc ☎ Ralph 01508 488410

Squirrel interface wanted. Email darren@crown.free-online.co.uk

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PERSONAL

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Any Amiga magazines or disk magazines require another contributor? I have knowledge of A1200 and other Amigas. Will work for free. Article previously published in *Amiga Format*. ☎ Ross Whiteford 01738 850732

BBSes

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The Forum! BBS online 24 hours, Kilmarnock, Scotland. Over 35 members, 2,000+ files available, including games, pictures, utilities, etc. 36K. Sysop: Jamie Maguire. Run by a software development student ☎ 01563 540863

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Dirt Tracker BBS: the headquarters of Powernet Mail network, hubs and nodes and points available on request. Help package available. One of the UK's no.1 leading BBSs with a friendly attitude ☎ +44 (23) 8036 5112 (24 hours)

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Moonlight BBS, Bedford, online 6pm-8am, 24 hours at weekends, ☎ 01234 212752. Sysop: John Marchant. Email gnome@putnoe.u-net.com.net Official Transamiga Support BBS, unlimited downloads, friendly sysop with excellent knowledge. Aminet online. Run by an experienced Amiga programmer who will help you out for free

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Help needed in setting up new Amiga User Group. All ages welcome, non profit-making, not a business. Northern Ireland area ☎ 01762 331560

NAC, Nottingham Amiga Club. Users of all ages and abilities welcome. From A500 to A4000 PPCs to 68Ks. Club meetings last Saturday of each month ☎ Mark Sealey 0115 9566485 anytime

French speaking Amiga club. PD disks, help, buy-sell, advice. Also specialists in 8-bit emulation. Please write to: BP 120, 4000 Liege 1, Belgium. No PC!

Looking for somewhere to chat with other friendly and helpful Amiga users? Then why not visit #amIRC on Undernet. #amIRC has established itself as the no.1 Amiga chat channel. We are the offical Amiga help channel on Undernet. Everyone is welcome. Visit our website at: http://surf.to/amirc

Amiga North Thames meet on the first Sunday of the month at St Mary Magdalene Vestry, Windmill Hill, Enfield, 1-5pm. Software/hardware problem solving, demos, news and Amiga games ☎ Mike 0956 867223 weekends or email Ant.london@ukonline.co.uk

New user group being set up called TAG (Total Amiga Group). Initially in the Somerset area ☎ Phil 01458 832981

Are there any Amiga users in Birmingham who want to set up a user group? ☎ Hitesh 0121 6056452

NPAUG is a new Amiga user group based on the net. We offer a free monthly magazine and tech support over the web. If you are interested in joining, visit our website: http://members.aol.com:/npaug/home.html or email me: npaug@aol.com

Need a new IRC chat channel? Come to #PoweredByAmiga on ARCNET for fun and informative chat about Amigas and otherwise. Visit our URl at

http://www2.prestel.co.uk/amigav/PBA/. We mostly meet at weekends about midday.

Are there any Amiga users in Cornwall interested in starting a user group in the Helston/Falmouth area? If so, email frank@massin.freeserve.co.uk or ☎ 01326 573596 and ask for Frank

Amiga Club International members receive a bi-monthly magazine disk and PD programs plus helpline. Recently relocated from London, Falloden Way to Dover. Established 1989 ☎ 01304 203128 or email robroy@catdtp.freeserve.co.uk

Felbrigg Amiga Group meets weekly near Cromer. We are a group for novice and expert users. For more information ☎ 01263 511705 or 824382

Amiga Support Association. We offer help, advice and a friendly chat. Monthly meetings, tutorials and a fact file are all available. To join our mailing list send a mail to Amiga_SA-Subscribe@egroups.com. Contact Phil: Snood@ukonline.co.uk ☎ 01703 464256 or ☎ Paul 01705 787367 for more information or visit http://www.btinternet.com/~philip.stephens

Is there anybody in the Northamptonshire area interested in starting up a new user group? Please contact me ☎ 01536 724309 or email nsthomas@ukonline.co.uk

Great Yarmouth user group. Anyone interested in joining this user group please contact John ☎ 01493 722422

South West Amiga Group, (SWAG) meets every first Thursday of the month, 8:30pm at the Lamb & Flag (Harvesters), Cribbs Causeway, Bristol. SWAG intends to get Amiga users together, provide info and support, promote the Amiga and have a laugh. Contact Andy Mills Swag@wharne.u-net.com

Are you Welsh, live in Wales or love Wales? Then join Cymru Amiga User Group. Visit us on http://bounce.to/caug or email dark.lords@deathsdoor.com to join

Would anyone, anywhere like to join the Amiga Free Helpline? If so see AFCD46:-ReaderStuff-/Terry_Green/ or ☎ Terry 01709 814296 (Rotheram) for more details

Deal Amiga Club welcomes all old hands and newcomers alike, whatever your ability. Admission £1, under 16's 50p. Annual membership is now free. If you've bought some bits and don't know how to put them together then bring them along and let us help ☎ 01304 367992 for more information or email superhighwayman@hotmail.com

West Lancs User Group. Sundays, 1pm-4pm at St. Thomas School Hall, Highgate Rd, Upholland ☎ 01695 623865, email ralph@twiss.u-net.com. Help and advice, novices and experts welcome

New Amiga sound and demo association seeks input, contacts and support to form a user group based around the Amiga music and demo scene. Interested? ☎ Dave 01243 864596 or 0961 985925

Power Amiga User Group based in Portsmouth for users of all ages and levels. We meet once a month on the last Saturday. We have all sorts of Amigas, prize draws, tutorials and general discussions each meeting ☎ Lee 01243 779015 (weekends only) or email LeeScott@free4all.co.uk or visit http://www.poweramiga.freeserve.co.uk

Workbench, the Manchester Amiga user group, meet on the first Thursday of each month at 7.00pm and offer general Amiga chat ☎ 0161 839 8970. Also, check out our website at: http://www.workbench.freeserve.co.uk Or email: mail@workbench.freeserve.co.uk

SEAL meets twice monthly at Northlands Park Community Centre, Basildon, Essex. We offer help, tutorials and presentations plus scanning, printing and email. Contact Mick Sutton, 20 Roding Way, Wickford, Essex. ☎ 01268 761429 (6-9pm). Email seal@thunder.u-net.com or visit our website, http://seal.amiga.tm

Huddersfield Amiga User Group (HAUG) meet on the first and third Wednesday of every month at The Commercial Inn, Market Street, Paddock, Huddersfield from 7.30pm onwards. ☎ Geoff (01484) 322101 email geoff@geemil.demon.co.uk or visit http://websites.ntl.com/~paul.4/index.html

Northern Ireland user group welcomes new members. Emerald Amiga Users meets regularly in Strabane. ☎ Charles Barr 01504 884700

United Amiga/Amstrad User Group (UAUG) established 1986: Largest user group for Amiga and Z80/6502 8-bits. 40 page magazines, cover disks (tapes), digitising, scanning, helplines, email service, Internet book search. Free gift upon joining. Send SAE for details to: The Editor, 13 Rodney Close, Rugby CV22 7HJ or email uaug.s@ukonline.co.uk

Join a new email club for Klondike, a Reko Productions game. Cardset creators and cardset collectors, Amiga and PC. Email kevin@reko.karoo.co.uk (make friends)

Pennine Amiga Club. Free worldwide helpline supporting all models. Non profit-making club. Not a business. We help with free advice. ☎ 01535 211230

Coventry and Warwick Commodore Computer Club (CWCCC) meets once a month on the first Wednesday at Earlsdon Methodist Church, Coventry. Email luke.stowe@ukonline.co.uk or visit http://ukonline.co.uk/luke.stowe/cwccc/index.html

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Amiga North Thames



Andrew Elia infiltrates Amiga North Thames (ANT) to discover the secret of its success

A little over a year ago, Chris Livermore and I ventured up to my home town of Walthamstow to witness the birth of a new user group. Michael Carrillo, the maintainer of the Amiga Yellow Pages website, had decided that North London had gone long enough without an Amiga user group and so took it upon himself to correct this injustice.

I've been following the progress of this fledgling group since the beginning and, bar one or two occasions, I've attended every meeting since the group's inception. Since that initial meeting, things have been tough; interest in the group (later to be named ANT by its members) wasn't great and there were many times when the attendance at meetings totalled three.

Having been in a similar position myself when I ran QMW AmigaSoc, I encouraged Michael not to give up. Michael didn't need any such spurring; he was determined to succeed. As Chris Livermore has quite rightly pointed out in past columns, city-based Amiga groups generally tend to have a lot more difficulty getting started. ANT is no exception. Michael tried a number of tricks to get people to come along including managing to convince journalist Andrew Korn to come and talk about his latest venture and Andrew Reed of Crystal Software to demonstrate Dark Millenia and other up-and-coming productions. However, all these efforts didn't seem to have any long-term effect.



The turning point was World Of Amiga '99. ANT and their small but dedicated band of regular members ran a table in the user group area. Despite a few mentions in *Amiga Format* and on the web, it appears that there were still a large number of people who weren't even aware of ANT's existence. But since then, ANT has enjoyed an increasing membership, thanks also to the fact that the group was advertised as being applicable to users not necessarily based in London. In fact, ANT now has regular attendees from Welwyn Garden City and all around Hertfordshire.

It's taken the group a while to settle upon a meeting place that adequately suited their needs. Candidates ranged from overpriced community centres in Chingford to rather grim community centres in Highgate (albeit with the added bonus of a freshly prepared meal being made available to members for a very small cost). They finally settled on a church vestry between Enfield Town and Oakwood.



A few of the ANT clan stand to attention while Michael (second from the right) demonstrates his affinity for the Krankees.

ONE YEAR LATER

Arriving at the venue a little before the start of the meeting, it came as no surprise that Michael was nowhere to be seen. His legendary absence of time management skills was as evident as always! Fortunately, the vice chairman, Steve Croucher was there to kick things off (not that the keen bunch of members already assembled needed any form of invitation).

Half an hour later, Michael arrived and the meeting got off to a small discussion to fill in the non-netted minority on the news relating to the purchase of Amiga and other group-related issues – the others, meanwhile, tried to avoid groaning too loudly at the plethora of schoolboy jokes he seems able to conjure up.

I was given the task of explaining and demonstrating the ins and outs of OS 3.5 using Michael's PPC-equipped A1200. At the time, many of the attendees had yet to purchase this essential upgrade. I'd hope that my talk was evidence enough to convince them to get their pennies together.

After that, the rest of the meeting was spent on 'miscellaneous activities' involving the machines people had brought along. *Quake* was unsurprisingly the game of choice, while my suggestion of two player *Lemmings* was met with looks of perplexity. They don't know what they're missing!

For those interested in the more productive side of things, the obligatory Shapeshifter tour and Internetworking discussions were the order of the day. Steve briefly demonstrated the process of burning a CD while 3.1 ROMs were installed inside an A1200, LS120 drive problems were diagnosed, and startup sequences were tweaked on behalf of less experienced members. There simply wasn't enough time to fit it all in!

The attendees numbered a very satisfying fifteen. Even Simon Archer (journalist and pioneer of the portable A600-cum-arm toner) and also a resident of Enfield, dropped in before eventually bowing to the irresistable temptation of the beckoning pub.

Most of the people with questions or problems left satisfied that their questions had been answered and their problems solved. Those who came looking for competition at a number of the multi-player games on offer either left with smug grins or vowing revenge through gritted teeth. In all cases, people learned something new (albeit not two-player *Lemmings*) and mostly went away with yet another avenue of uses to explore with their Amiga.

There can be little doubt that ANT has achieved a great deal since it began, and that it has done so under especially difficult circumstances. What further evidence do you need that it pays to advertise?

Andrew Elia

CONTACT DETAILS

Contact/Meeting details for ANT:
E-Mail ant.london@ukonline.co.uk
or phone Michael on 0956 867223 at weekends.

Like an increasing number of groups, ANT now sports an eGroups-based mailing list as well as a website with a logo designed by the group's resident artist, Jasen Mandil. Visit them at http://www.egroups.com/group/ant-london **and** http://web.ukonline.co.uk/ant.london **respectively.**

Lost Souls Form

No user group near you? Then fill in this form and send it to: User Groups • c/o Amiga Format • 30 Monmouth Street • Bath • BA1 2BW.

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Andrew Elia
AmigaSoc

Just the FAQs

The UK's first and foremost über-usergroup comes under the Just the FAQs spotlight with head spokesperson Andrew Elia trapped like a rabbit before an oncoming car...

We caught up with Andy as he was writing a usergroups article for us while Chris Livermore is living it up in Scotland and we posed him the usual:

■ When did you first use an Amiga?
It was November 1989. I'd never actually seen one before, and I simply couldn't believe the clarity of the graphics. I just couldn't hide the incredulous look on my face when I heard the sound.

I continued to use one A500 or another until I eventually managed to save up for an A4000.

■ When was AmigaSoc started?
AmigaSoc has two incarnations. While at University, a scruffy Electronic Engineering student named Chris Livermore decided to start up an Amiga Society (AmigaSoc). Julian Sadotti came in as treasurer and I came along to help out. Just before Chris graduated, he put me as president on the society renewal forms. Julian, Chris and I came to the conclusion that there would eventually come a point that we wouldn't be able to contribute to AmigaSoc as it would be run by people we didn't know and who might not appreciate our input. So we set up AmigaSoc UK and ensured that the existing AmigaSoc became known as QMW AmigaSoc.

We thought about running it as a user group, but we really couldn't think of anything we could offer people above what other groups did. So we decided to target the community as a whole, but not set our sights too high. Hence, we've tried to stick with just UK stuff so as not to overstretch ourselves. QMW AmigaSoc is still running today. We lend a hand whenever we can.

■ How did you get the idea for the lost souls database?
It was actually Chris Livermore's idea. We'd just implemented the user group locator and we were getting a fair few people not finding user groups. Chris's implementation used our postcode technology to periodically match people who are closest in geographical terms, and once a reasonable number were found, they'd be contacted. We're happy to say that it's worked really well and we've been able to contribute names of interested parties to new user groups.

■ What made AmigaSoc get into the organisation of trips to Köln and helping to organise WoA?
It started with a visit Chris, Julian and I made to Köln in '97. We were astonished at how big the Amiga content was and how exciting the atmosphere was. We thought users should see how popular the Amiga was in Germany. Naturally, we made it our aim to get the most cost-effective solution we could without resorting to pitching tents outside the Köln Messe!

As for WOA, I started it off with an email to Petro asking what the score was. His response was what we had expected: there would be no show. I wanted to rectify this situation, but didn't think I could handle it on my own. I set about emailing all the user groups I knew as well as various Amiga celebrities who have contributed to Amiga events in the past.

I'll be the first to admit that the show was rough round the edges, but given the lack of time and people, it was pretty miraculous that it happened at all. If it wasn't for the help of people like Andrew Korn and user groups like SEAL, ASA and so on, it probably wouldn't have done.

■ What are you working on now?
Well, we've just finished re-launching the User Group Discount Scheme which we see as an important incentive to get people to join user groups. We had to put it on hold due to our work on World Of Amiga '99. So far, we've got a good number of dealers throwing very enthusiastic support behind it, and we'll no doubt be able to increase the acceptance as time progresses. We're also taking an involvement in World Of Amiga 2000 along with user groups from around the UK. There are a couple of other things in the pipeline, but I can't say more now.

■ What's the one Amiga item (software or hardware) you wouldn't be without?
Oooh! There are so many! I love Directory Opus as it provides a powerful desktop environment that is simply unmatched by any other platform.

It's annoying how people whinge about how behind they think Workbench is, when Opus is right under their noses! DrawStudio is probably next in line, but the fact that development has now ceased is heartbreaking.

I have considered purchasing the source code and continuing development, but I doubt that I'd have the time or expertise to do it properly!

■ Who's your Amiga hero and why?
That's a tricky one. There are quite a few of them, many of whom I'm in reasonably regular contact with, so I won't embarrass myself or them by naming names!

In fact, I'd say that there are user groups like ASA, HAUG and SEAL whose members went to considerable expense and effort to make sure that World Of Amiga '99 happened, and to see the energy they put in to all that they did. They are truly the definition of Amiga users.

■ What's the one piece of software or hardware you wish that you'd had the idea for?
While I was doing my BSc, I developed a board that would let you perform functions that you'd normally have to get a microprocessor to do inside hardware, much like the Amiga's custom chips. It was effectively a custom, custom chip!

Mick Tinker's BoXeR actually employs a very similar concept and so we may one day see Amiga software that dynamically builds hardware accelerated functionality into itself. AF

afb amiga format bulletin

Since afb is all about community, rather than hand over this page to just one voice, we collected a bunch of afb'ers opinions

Normally, the afb page is written by one member of afb. But it's a team effort this month.

The thing that makes AFB what it is, is the dry humour that keeps taking me by surprise. Most of the mails posted to the list are helpful and informative, but almost every day I find myself roaring with laughter at a throwaway comment that someone has penned from the fringes of any particular discussion. Not to be missed! Sign up today. *Anthony Prime*

What can I say? If you're not subscribed, you'll never know what a great place it is. You'll also never know enough useful information to fill a very weighty book. The answer to that irritating error that has plagued your Amiga for so long is just an email away. *Jonathan M. Dudley*

AFB is great. If you have a problem, this is the first place to ask as there are a lot of friendly people on here. The OT threads get a bit out of hand sometimes though. *Wesley Potter*

So you wanna know what afb is? I'm not telling – it's a secret. Only those who have braved the ceaseless mickey-taking, plugs of various software, explosions of irateness at sig. length by Ben need apply. I myself am a secret lurker. I freely admit it. You see, the connection here at this fine education establishment is not the cat's miaow. If I do post, if a reply is well, replied, then I can't read it unless I scroll back through the reams of messages online. But for those of you accessing the web on a PROPER computer (NB: not a PC) give it a go. *AF*, love it as we do, cannot hope to keep news up to date when it is written a month, at least, before release. And I leave you, dear reader, with a thought for the millennium:

GETTING ON AFB:

You can subscribe to the afb by going to the following website and signing up:
http://www.egroups.com/group/afb/

If you just want news on when the next issue of *Amiga Format* will be out, we offer that at:
http://www.egroups.com/group/afb-announce/

It's worth joining both lists since they each offer unique things and the announce list usually only has one email every four weeks.

AFB ate my balls! *Matt King*

A very helpful group of people. There will always be someone who can answer any questions you might have. It also has just the right mix of technical messages and insane chat :-) – though if there isn't enough you can always join afb-ot as well. *Tom Underwood*

Thanks to AFB, my Amiga is stabler than it used to be. Why? Because of the help which many people on the mailing list have supplied me. But what else have I got from AFB? A sense of community for one thing, plus in-depth discussions ranging from the silly to the serious. So don't delay, subscribe today! *Paul Laycock*

Imagine a schizophrenic with 859 voices in his head. That's afb. *David McMinn*

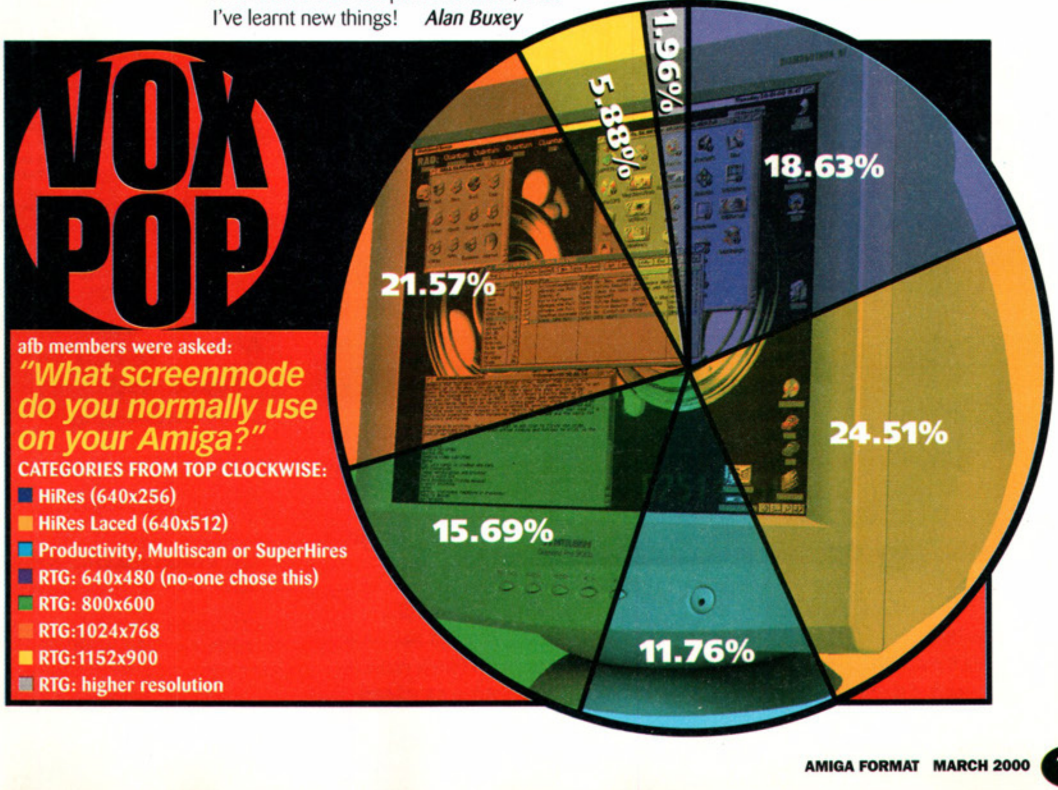
Never have so many paid so much attention to so few posters. Despite the number of people subscribed to afb, only a camparative handful post regularly. They tend to be intelligent and well-informed, so newcomers need not be frightened. Come one, come all, and make yourself heard! *Kevin Fairhurst*

I joined AFB during the past year and, to be honest, don't know why I didn't join sooner! Not only do you get to chat with the staff of AF (hello Ben and Rich!) but also with the online community of *AF* readers. The combined knowledge of other AFB subscribers is a powerful force; even I've learnt new things! *Alan Buxey*

RULES AND REGS:

Based on the fact that people complain about a lack of regulation on the list, we've decided to introduce some hard and fast rules. Expect these to change as time goes by, although some will stay fixed:

- **All polls must have dates. For an example of this, look at existing polls before starting one of your own. Also, unless absolutely necessary, choose a closed or anonymous poll – the named one takes up far too much space.**
- **Make sure you quote sensibly, don't include the greeting or signature from the previous mail, etc.**
- **Please pay attention to and keep all mails with MANAGE at the start of the subject line.**
- **Keep the subject live. Make sure that it applies to the mail you are sending, or change it to something more appropriate.**
- **There are no content restrictions on afb, although swearing is frowned upon, but please don't include attachments unless previously agreed.**
- **Any URLs posted should have the "http://" part to enable people to simply double-click on them to launch their browsers.**



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April issue (AF135) on sale Friday March 10th 2000

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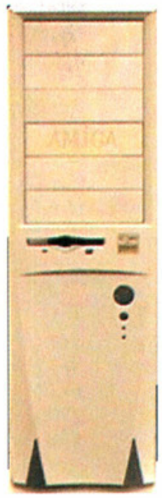
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- For an **additional** £20 upgrade to a full A4000 keyboard and adapter (total price - £134.90)
- Add a 32-speed CDRom, buffered interface and software for just **£59.95**

EZ Tower Z4 - from just £99.95

- Takes A1200 and Z4 expansion board
- 230 watt PSU
- Built-in floppy-drive faceplate
- 7 drive bays - 5 external
- All 7 no. Z2/4-Bus slots line up with tower expansion card slots (check this on other towers!)

Z4-Bus A1200 Expansion Board - just £119.95

- 5 x Z2 slots, including 2 x high speed slots
- 2 x Z4 slots for future ultrafast cards
- 4 x clock ports
- Pass through connector for A1200 688x0 & PPC/G4 accelerators
- Video slot* in-line with 1 high speed Z2 slot

Z4-Bus Bundle Prices

Z4-Bus & CV64-3D	- £249.95
Z4-Bus & CV64-3D, CMON/F	- £289.95
Z4-Bus & CV64-3D, INSD2 & CMON/F	- £349.95
Z4-Bus & CV64-3D, INFF2 & CMON/F	- £379.95
Z4 Tower & Z4-Bus	- £199.95
Z4 Tower & Z4-Bus, CV64-3D & kb adapter	- £349.95
Z4 Tower & Z4-Bus, CV64-3D & Amiga A4K kb & EZKYSW, kb controlled CMON & INFF2	- £499.95
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PortJunior clockport-fitting fast serial i/f	- £24.95

*(optional adapter - £24.95 - needed for graphics cards own internal flickerfixer - if fitted)

Entry level EZPC Tower from £599.95

Upgrade packs for existing EZTower users - £499.95 - see spec below:

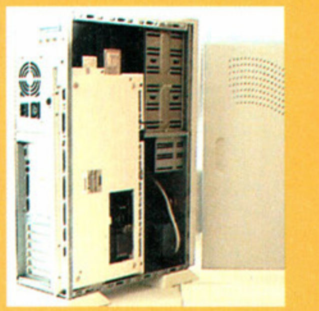
■ Full EZTower with removable side panels & 250W PSU (not with upgrade kit) ■ PC Keyboard & EZKey adapter (not with upgrade kit) ■ 100MHz-bus motherboard with 4x UDMA IDE ports ■ 400Mhz AMD CPU ■ 2 x high speed serial & 1 x EPP parallel port ■ 32MB 100MHz memory ■ 8MB SVGA SIS Graphics ■ 16 bit 3D sound record and playback ■ 4.3GB UDMA hard drive ■ 56k V90 internal Modem ■ 10/100MB/s ethernet LAN connection ■ 32 speed CDROM ■ PC mouse ■ Remote Amiga/PC keyboard switch ■ Samba Amiga client/server networking software ■ Amiga PCMCIA Ethernet card & drivers ■ TV/Teletext tuner with 24-bit still & video capture and Amiga composite video input ■ EZVGA-INSD internal scandoubler and SMON/V switch to display your Amiga output on a PC monitor. ■ ■ ■ You will need to have a Windows 9x operating system and an SVGA PC monitor. To use the Samba networking software you will need an Amiga TCP/IP stack and the CC_RESET fix for your A1200 ■■ A collection, installation and delivery service is also available - please ring. ■■■



MK 4 EZ-Tower - here with Amiga & PC EZPC-Tower System



EZTower Z4 - see left for details



The EZPC Tower system showing the A1200, the PC rear sockets, card slots and removable side panels

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items are tested with a Rev 1.D.1 motherboard - other boards may need modification. Items subject to mechanical wear & tear (eg keyboards) are limited to 90 days warranty on those components. E.&O.E. All prices include VAT at 17.5%. Orders sent outside the EC do not incur VAT - divide the prices shown by 1.175 to arrive at ex-VAT prices. All goods are offered subject to availability and our standard terms & conditions, copies of which are available upon request. **AA5**

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